

Geotechnical Investigation and Design Report

12489 and 12861 Dixie Road, Caledon, Ontario

Caledon, ON

November 29th, 2024

Prepared for:

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Geotechnical Investigation and Design Report - 12489 and 12861 Dixie Road, Caledon, Ontario

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Geotechnical Investigation and Design Report - 12489 and 12861 Dixie Road, Caledon, Ontario

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Introduction November 29th, 2024

1.0 INTRODUCTION

Stantec Consulting Ltd. (Stantec) was retained by QuadReal Properties Group (Client) to provide geotechnical investigation and design services for proposed developments, located at 12489 and 12861 Dixie Road, Caledon, ON (The Site). The purpose of this investigation is to provide support and insight during the preliminary and detailed design of the proposed industrial buildings, parking lots and Stormwater Management (SWM) pond.

The project scope of work consisted of drilling geotechnical boreholes and installing monitoring wells, conducting geotechnical laboratory testing, and providing factual results obtained from geotechnical investigations including geotechnical design recommendations for the proposed development.

This report provides the results of the geotechnical component of the investigation at the proposed Site and has been prepared specifically and solely for the future development described herein.

This report does not address any environmental aspects of the project. A hydrogeological report is being prepared and will be issued under a separate cover.

Use of this report is subject to the Statement of General Conditions provided in Appendix A.

2.0 PREVIOUS REPORTS

The following report has been reviewed by Stantec as a part of the geotechnical investigation

"Preliminary Geotechnical Investigation – Proposed Future Development – 12489 Dixie Road, Caledon, Ontario" issued as a draft report on November 30th, 2021, by Pinchin Limited. This report only pertains to one municipal address, which comprises of half of the site only.

All relevant information from the above-mentioned report have been reviewed and incorporated into the report where necessary.

3.0 PROJECT AND SITE DESCRIPTION

The initial concept plan was issued by Ware Malcomb on May 16th,2022, comprises two parcels with municipal addresses of 12489 and 12861 Dixie Road, respectively. The proposed development includes five (5) industrial buildings, a storm water management (SWM) ponds, loading docks, driveways, and parking lots.

Two industrial buildings, Buildings 1 and 2 are proposed to be constructed within the site limits of 12681 Dixie Road, with total footprint area of 100,758 m² and 87,960 m², respectively.



Area Geology November 29th, 2024

Three industrial buildings are proposed to be developed within the site limits of 12489 Dixie Road. Buildings 1, 2 and 3 will have a total footprint of 42,912 m², 49,269 m² and 42,384 m², respectively. The concept plan is shown on **Drawing No. 2 – Borehole Location Plan in Appendix B.**

The site is located east of the intersection between Old School Road and Dixie Road in Caledon, Ontario. The site is bounded by Old School Road from its northwest, Dixie Road from the south, and agricultural lands from the east and a golf course from the northeast. The site is located within the parcel limits of municipal addresses of 12489 and 12861 Dixie Road. The site consists of two agricultural farms that are intersected by two creeks of the Humber River tributaries travelling east to west, which is considered as a natural heritage area. Both farms are developed with residential dwellings, barns with livestock and storage buildings at the western limit of the site along Dixie Road. The location of the subject site can be found in **Drawing No. 1 – Site Location Plan in Appendix B.**

4.0 AREA GEOLOGY

Based on a review of available geological records, the site is located within the physiographic region of South Slope. The South Slope spans approximately 2,400 square kilometers, extending from the Niagara Escarpment in the west to the Trent River in the east. This region is characterized by gently sloping shale and till plains, which predominantly slope southeastward.

The surficial geology within the site limits consists of Halton Till, consisting of mainly very dense sandy silt to hard clayey silt deposits, with interbeds of sand, gravel and clay throughout the strata.

The bedrock within the site is part of the Queenston formation, which consists of reddish brown shale, with frequent layers of hard, grey limestone. The bedrock surface is found between elevations of 220 masl to 245 masl, which corresponds to depths of 20 m to 45 m below ground surface (BGS). The groundwater is expected to be between elevations of 250 masl to 260 masl, which corresponds to depths between 5 m to 15 m BGS

5.0 SCOPE OF WORK

- Contact the public utility authorities to confirm the locations of major public utilities.
- Review underground utility scans completed by the public and private locators.
- Advance sixty-nine (69) geotechnical boreholes to the following depths:
 - Thirty (30) boreholes advanced to 9.6 m below ground surface (BGS) or up to refusal, whichever comes first. Fourteen (14) locations will be equipped with a monitoring wells installed with a 3 m well screen. Monitoring well screen to be backfilled with sand filter pack to ~0.3 m above screen, followed by bentonite seal to ground surface. All monitoring wells to be covered with lockable, steel monuments.
 - Twenty-eight (28) boreholes advanced to 6.6 m BGS or up to refusal, whichever comes first.
 - Eleven (11) boreholes advanced to 3.5 m BGS or up to refusal, whichever comes first. Two (2) locations will be equipped with a monitoring well installed with a 3 m well screen. Monitoring well screen to be backfilled with sand filter pack to ~0.3 m above screen, followed by bentonite seal to ground surface. All monitoring wells to be covered with lockable, steel monuments.



Scope of work November 29th, 2024

- Collect soil samples in each borehole at regular intervals by driving a split tube sampler in accordance with the
 methods and procedures described in ASTM D1586. The samples obtained were placed in moisture-proof
 containers and transported to our geotechnical materials testing laboratory for classification and testing.
- Record the presence and depth (where encountered) of free groundwater in the open boreholes.
- The coordinates of the boreholes were obtained by Stantec personnel using Survey Equipment.

5.1 FIELDWORK

Prior to commencing the field investigation, the various public utility companies were consulted to identify where public utilities crossed the property boundaries. In addition, a private locator was contracted to clear the boreholes of any private on-site services.

The fieldwork for the investigation commenced on January 23rd, 2023 and was completed on March 3rd, 2023. A total of sixty-nine (69) boreholes were advanced as part this geotechnical investigation. Thirty-seven (37) boreholes were advanced within the site limits of 12861 Dixie Road, and thirty-two (32) boreholes were advanced within the site of 12489 Dixie Road Borehole locations are shown on **Drawing No. 2 – Borehole location Plan in Appendix B**.

The boreholes were advanced using a track mounted Diedrich D120 drill rig equipped with solid and hollow-stem augers operated by a qualified drilling subcontractor. Stantec personnel recorded the subsoil and groundwater conditions encountered in the boreholes. The soil samples were recovered at regular 0.76 m and 1.52 m intervals using a 51 mm (outside diameter) split-tube sampler by conducting Standard Penetration Tests (SPTs) in accordance with the procedures outlined in ASTM specification D1586. All soil samples recovered from the boreholes were placed in moisture-proof bags and returned to our laboratory for detailed geotechnical classification and testing as required.

Groundwater monitoring wells were installed in sixteen (16) boreholes (BH/MW-04-23, BH/MW-09-23, BH/MW-13-23, BH/MW-15-23, BH/MW-19-23, BH/MW-25-23, BH/MW-31-23, BH/MW-33-23, BH/MW38-23, BH/MW46-23, BH/MW48-23, BH/MW49-23, BH/MW51-23, BH/MW55-23, BH/MW61-23 and BH/MW64-23) and the water levels were measured by Stantec personnel on March 10, 2023. The monitoring wells consisted of 50 mm inside diameter, Schedule 40 PVC pipe, with a No. 10 slot screen (0.01-inch slot) with a minimum screen length of 3.0 m. The annular space between the monitoring well pipe and surrounding geological formation was backfilled with sand to the top of screen, with the remainder of the annular space being filled with a granular bentonite to prevent a hydraulic connection from occurring between the soil layers along the length of the casing.

The boreholes without monitoring wells were backfilled with a low-permeability mixture of granular bentonite and auger spoils in accordance with the requirements of the Ontario Ministry of the Environment, Conservation and Parks (MECP) Regulation 903/90 as amended 128/03.

5.2 BOREHOLE LOCATION AND ELEVATION SURVEY

Stantec field personnel collected the borehole survey information using a Trimble R12 GPS unit. Ground surface elevations at the borehole locations referenced to a geodetic datum and approximate UTM coordinates (Zone 17 NAD 83) and are shown in Table 5.1 below.



Scope of work November 29th, 2024

Table 5.1 Borehole Location and Elevation Survey

Table 6.1 Belefi	ole Location and Ele Ground Surface	•	LITM Coordinates (Zone 47 NADS2)			
Borehole No.	Elevation	Borehole Depth	UTM Coordinates (Zone 17 NAD83)			
	(m) masl	(m) BGS	Northing (m)	Easting (m)		
BH 01-23	266.2	9.6	595653	4847981		
BH 02-23	265.5	9.6	595705	4848058		
BH 03-23	265	9.6	595769	4848006		
BH/MW 04-23	265.7	9.6	595725	4847952		
BH 05-23	266.2	9.6	595664	4848182		
BH 06-23	265.8	6.6	595781	4848224		
BH 07-23	266.7	9.6	595825	4848295		
BH 08-23	266.1	6.6	595969	4848191		
BH/MW 09-23	265.3	9.6	596040	4848271		
BH 10-23	265.9	3.5	595944	4848270		
BH 11-23	267.1	6.6	595879	4848380		
BH 12-23	266.7	6.6	595762	4848400		
BH/MW 13-23	266.8	9.6	595665	4848299		
BH 14-23	266.1	6.6	595570	4848205		
BH/MW 15-23	267.7	7.9	595429	4848202		
BH 16-23	267.9	6.6	595552	4848337		
BH 17-23	267	6.6	595643	4848438		
BH 18-23	266.7	6.6	595783	4848526		
BH/MW 19-23	267.7	9.6	595662	4848555		
BH 20-23	268	6.6	595559	4848509		
BH 21-23	269.5	9.6	595438	4848363		
BH 22-23	268.2	6.6	595083	4848400		
BH 23-23	268.5	3.5	595331	4848259		
BH 24-23	268.1	6.6	595181	4848515		
BH/MW 25-23	269.9	9.6	595247	4848188		
BH 26-23	269.1	9.6	595210	4848274		
BH 27-23	269.6	3.5	595317	4848537		
BH 28-23	269.5	6.6	595194	4848421		
BH 29-23	270.3	6.6	595466	4848535		
BH 30-23	269.9	3.5	595329	4848401		
BH/MW 31-23	269.4	9.6	595342	4848646		
BH 32-23	269.6	9.6	595453	4848681		
BH/MW 33-23	268.3	9.6	595344	4848749		
BH 34-23	268.7	6.6	595597	4848680		
BH 35-23	266.8	3.5	595533	4848785		
BH 36-23	265.7	6.6	595569	4848056		
BH 37-23	264.4	3.5	595368	4848127		
BH/MW38-23	264.9	9.8	596080	4847389		
BH39-23	265.6	9.8	595969	4847479		



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Borehole No.	Ground Surface Elevation	Borehole Depth	UTM Coordinates (Zone 17 NAD83)		
	(m) masl	(m) BGS	Northing (m)	Easting (m)	
BH40-23	265.8	9.8	596036	4847522	
BH41-23	264.6	9.6	596117	4847402	
BH42-23	262.5	9.6	596196	4847415	
BH43-23	263.6	6.6	596304	4847473	
BH44-23	266.5	6.6	596068	4847695	
BH45-23	266.2	6.6	596154	4847745	
BH/MW46-23	260.7	9.6	596433	4847444	
BH47-23	258.8	6.6	596531	4847474	
BH/MW48-23	265.4	9.6	596181	4847842	
BH/MW49-23	260.6	9.6	596626	4847513	
BH50-23	265.8	9.6	596333	4847844	
BH/MW51-23	266.6	9.8	595838	4847620	
BH52-23	265.6	6.6	596099	4847524	
BH53-23	265.8	6.6	595974	4847727	
BH54-23	264.8	3.5	596261	4847548	
BH/MW55-23	265.8	9.8	596186	4847566	
BH56-23	267.0	3.5	595895	4847552	
BH57-23	266.8	9.6	595968	4847623	
BH58-23	264.8	3.5	596066	4847774	
BH59-23	265.5	6.6	596251	4847633	
BH60-23	266.2	6.6	596288	4847774	
BH/MW61-23	263.9	9.6	596359	4847639	
BH62-23	261.2	6.6	596519	4847574	
BH63-23	262.1	3.5	596708	4847613	
BH/MW64-23	265.2	9.6	596467	4847868	
BH65-23	264.3	3.5	596574	4847743	
BH66-23	264.2	9.6	596496	4847762	
BH67-23	262.8	6.6	596595	4847653	
BH68-23	264.3	6.6	596387	4847717	
BH69-23	263.5	6.6	596343	4847530	

In general, the site topography indicates that the site slopes down from west to east. The site is considered flat with an average topographic relief of approximately 5 m, with elevations ranging between 270 masl to 258 masl. The borehole locations are shown on **Drawing No.2 – Borehole Location Plan in Appendix B.2**

5.3 GEOTECHNICAL LABORATORY TESTING PROGRAM

All samples recovered from the geotechnical investigation were returned to Stantec's geotechnical and materials testing laboratory and were visually examined by a geotechnical specialist.



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The scope of the geotechnical laboratory testing program is outlined below in Table 5.2.

Table 5.2: Geotechnical Laboratory Testing Program

Laboratory Test	Number of Samples Tested
ASTM D422-63 (2007) – Grain Size Distribution with Hydrometer	22
ASTM D4318-10 – Atterberg Limits	7
Soil Chemical Testing (pH, Sulphide, Chloride, Electrical Conductivity, and Soil Resistivity)	10

The results of the laboratory tests are discussed in the text of this report. The results of the moisture content tests are shown on the Borehole Records in **Appendix C**. The results of the grain size distribution tests and Atterberg Limits Tests are reported on the borehole records and are illustrated in **Appendix D**.

Samples remaining after testing were placed in storage for a period of three months after issue of the original geotechnical report. After the storage period, the samples will be discarded.

6.0 RESULTS OF INVESTIGATION

6.1 FRAME OF REFERENCE

The soils encountered in the boreholes and reported herein have been classified in accordance with the Unified Soil Classification System as defined in ASTM D2487 per Unified Soil Classification System (USCS) and D2488 per visual-manual method.

It should be noted that the internal diameter (I.D.) of the SPT sampler is 38 mm and hence the grain size test results and soil classifications may not reflect the entire gravel size fraction which extends to 75 mm diameter. The presence of cobbles (particles from 75 mm to 300 mm) and boulders (particles > 300 mm) were inferred to be present in specific stratum and are described separately from the gravel content.

It should also be noted that the stratigraphic boundaries shown on the borehole logs are inferred from non-continuous sampling and should be considered approximate only.

6.2 OVERVIEW OF CONDITIONS:

In general, the subsurface stratigraphy encountered in the boreholes advanced on the Site consisted of the following:

- Topsoil
- Common fill material (encountered only in boreholes BH41-23, BH42-23 and BH43-23)
- Cohesive till material consisting of Sandy Lean Clay (CL), Lean Clay with Sand (CL), Sandy Silty Clay (CL-ML),
 Sandy Silty Clay with Gravel (CL-ML)
- Groundwater levels ranged between 0.86 m to 9.6 m below ground surface (BGS), which corresponds to elevations of 266.6 masl to 251.9 masl



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• Bedrock was not encountered in the boreholes advanced for this investigation, as the borehole depth for this investigation did not exceed 9.6 m BGS (maximum depth of 9.6 m below grade).

The following paragraphs provide additional information on the soil strata encountered in the boreholes. The following is intended to summarize the conditions encountered during the investigation. **Appendix C -Borehole Records** should be used as the primary source of information supplemented by the information provided in the following sections. The soil conditions shown on the records are a direct extraction from the associated boreholes.

6.3 TOPSOIL

Topsoil was encountered below the ground surface cover (i.e., roots/agricultural lands) at all borehole locations.

The thickness of the topsoil varied from approximately 300 mm to 600 mm, with an average thickness of approximately 450 mm. Given the Site is located mainly within agricultural lands, thicker topsoil is anticipated within low lying areas which may be confirmed by a test pit program.

The N-values obtained from the SPTs advanced in the topsoil ranged from 3 to 9 blows per 0.3 m penetration. Based on the N-values, the topsoil layer was assessed as loose.

6.4 COMMON FILL MATERIALS

A layer of brown silty clay fill material was encountered underlying the topsoil in three (3) of the boreholes (boreholes BH41-23, BH42-23 and BH43-23). The samples recovered from the common fill material generally contained trace sand, trace to some gravel and trace rootlets/plants debris. The thickness of the fill material varied from 0.5 m to 0.6 m.

The samples of the fill materials were characterized as moist to wet based on visual and textural examination of the samples in the field. The soil is described as silty clay fill (characterized as common fill for purposes of this report) based on visual and textural examination.

6.5 COHESIVE TILL – SANDY LEAN CLAY, LEAN CLAY WITH SAND (CL) SANDY SILTY CLAY, SANDY SILTY CLAY WITH GRAVEL (CL-ML)

A stratum of lean clay with sand (CL) till was encountered underlying the topsoil soils described in the preceding sections in all boreholes. The samples recovered from the cohesive till soils typically contained trace gravel. Generally, the thickness of the cohesive till layer ranged from approximately 0.4 m to 9.7 m. All boreholes were terminated in the cohesive till deposit.

The N-values obtained from the SPTs advanced in the cohesive till ranged from 7 to greater than 50 blows per 0.3 m penetration. Lower N-values were recorded in some boreholes in the surficial zone of this deposit within the weathered material to the depth of approximately 0.8 m below grade, however, the majority of the boreholes revealed a very stiff consistency in the surficial zone of the layer. Beyond this depth, the N-values ranged from 14 to greater than 50 blows per 0.3 m penetration. Based on the N-values, the soil was assessed to have a consistency ranging from very stiff to hard (generally hard). The layer was described to be moist to wet



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A layer of brown sandy silty clay till was encountered below the topsoil in boreholes BH/MW38-23 to BH69-23, with the exception of borehole BH59-23. The Sandy silty clay was primarily observed within the 12489 Dixie Road site limits. The samples recovered from the sandy silty clay till typically contained traces of gravel, whereas higher gravel content was observed at boreholes BH39-23 and BH40-23. Trace rootlets and plant debris were encountered at shallow depths. The thickness of the layer ranges from 1.5 m to 6.1 m below ground surface, which corresponds to elevations between 265.6 masl to 258.5 masl. The layer was described to be moist to wet

The N-values obtained from the SPTs advanced in the sandy silty clay till layer ranged from 9 to 43 blows per 0.3 m penetration, which indicates a soil consistency of very stiff to hard.

Grain size analyses and Atterberg limits tests were conducted on select samples of the cohesive till. The results of the tests are summarized below in Table 6.1. The results of the gradation analyses are shown on the borehole records in **Appendix C** and are illustrated on Figure 1 in **Appendix D**.

Table 6.1 Grain Size Distribution and Atterberg Limits

David dia	Depth	Grain Size (%)				Atterberg Limits (%)			0.11.01
Borehole	(m BGS)	Gravel	Sand	Silt	Clay	LL	PL	PI	Soil Classification
BH/MW15-23	1.8	5	31	31	33	26	13	13	SANDY LEAN CLAY (CL)
BH/MW19-23	3.3	5	22	36	33	27	13	14	LEAN CLAY WITH SAND (CL)
BH/MW31-23	3.3	5	26	31	38	18	10	8	SANDY LEAN CLAY (CL)
BH18-23	3.3	6	27	34	33	•	•	•	SANDY LEAN CLAY (CL)
BH20-23	3.3	20	28	37	25	•	•	•	SANDY LEAN CLAY (CL)
BH21-23	6.3	5	38	35	22	29	13	16	SANDY LEAN CLAY (CL)
BH22-23	3.3	8	25	31	36	-	-	-	SANDY LEAN CLAY (CL)
BH26-23	2.5	6	21	29	44	-	-	-	LEAN CLAY WITH SAND (CL)
BH/MW38-23	1.8	4	26	34	36	-	-	-	SANDY LEAN CLAY(CL)
BH/MW38-23	4.1	10	26	33	31	30	12	18	SANDY LEAN CLAY(CL)
BH/MW38-23	7.9	0	4	45	51	-	-	-	LEAN CLAY (CL)
BH39-23	3.4	16	32	29	23	-	-	-	SANDY SILTY CLAY with GRAVEL(CL-ML)
BH40-23	1.8	6	35	32	27	-	-	-	SANDY SILTY CLAY(CL-ML)
BH40-23	4.9	18	30	25	27	-	-	-	SANDY SILTY CLAY with GRAVEL(CL-ML)
BH/MW46-23	3.4	7	29	32	32	26	12	14	SANDY LEAN CLAY(CL)
BH/MW51-23	1.8	6	24	33	37	28	12	16	SANDY LEAN CLAY(CL)
BH52-23	1.8	3	36	34	27	-	-	-	SANDY SILTY CLAY(CL-ML)
BH52-23	3.4	7	30	32	31	-	-	-	SANDY LEAN CLAY(CL)
BH/MW55-23	2.6	9	29	33	29	-	-	-	SANDY LEAN CLAY(CL)
BH57-23	2.6	3	22	38	37	-	-	-	LEAN CLAY with SAND(CL)
BH59-23	1.8	2	20	35	43	-	-	-	LEAN CLAY with SAND(CL)
BH67-23	2.6	5	27	36	32	-	-	-	SANDY LEAN CLAY(CL)

Notes:

- 1. Fines denote fraction passing the No. 200 sieve.
- 2. LL, PL, and PI denote Liquid Limit, Plastic Limit and Plasticity Index, respectively.
- 3. Soil classification in accordance with USCS (ASTM D2487)



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Based on the results of the lab testing referenced above, this soil is classified as a cohesive till consisting of low plasticity Lean Clay (CL) with sand to Sandy lean Clay.

6.6 GROUNDWATER CONDTIONS

Sixteen (16) monitoring wells were installed within boreholes across the proposed site to monitor the groundwater conditions. Water levels within the monitoring wells installed were measured on March 10, 2023. The groundwater was encountered at elevations ranging from 256.1 masl to 266.6 masl. The groundwater level is subject to seasonal fluctuation and rainfall patterns and will be influenced with the water levels. Table 6.2 provide a summary of the measured groundwater levels.

Stantec is conducted a hydrogeology study for the site and the findings were provided in a separate hydrogeology assessment report for the site.

Table 6.2: Summary of Measured Groundwater Levels

Borehole Number	Water Level Depth (m)	Water Level Elevation (masl)
BH/MW04-23	8.3	257.4
BH/MW09-23	9.2	256.1
BH/MW13-23	7.4	259.4
BH/MW15-23	1.8	265.9
BH/MW19-23	3.9	263.8
BH/MW25-23	5.4	264.5
BH/MW31-23	7.8	261.6
BH/MW33-23	1.7	266.6
BH/MW38-23	8.7	256.3
BH/MW46-23	5.8	254.9
BH/MW48-23	2.4	263.0
BH/MW49-23	8.7	251.9
BH/MW51-23	1.3	265.3
BH/MW55-23	0.8	265.0
BH/MW61-23	6.1	257.8
BH/MW64-23	1.2	264.0



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7.0 GEOTECHNICAL ENGINEERING DESIGN AND RECOMMENDATIONS

The site comprises agricultural land that was used for farming crops and livestock, with barns and storage buildings located within the southern area of the site, and farming lands covering the rest of the land. The site is approximately 116 hectares in area, and it is proposed to have five industrial buildings, storm water management (SWM) ponds and parking spaces surrounding the industrial facilities. Shallow foundations and grade supported floor slabs are considered technically feasible for the proposed industrial buildings. Several factors exist within the study area that could impact construction of the proposed development, including:

- Presence of surficial topsoil and surficial fills
- Presence of drainage tiles within 0.5 to 1.2 m below ground surface ,and
- · Frost susceptibility of subsurface soil.

The native soil stratigraphy consisted of the following:

- Topsoil; underlain by,
- Cohesive till material consisting of Sandy Lean Clay, Lean Clay with Sand (CL) to Sandy silty Clay (CL-ML)

Geotechnical comments, discussion, and recommendations are provided in the following sections with respect to the design and construction of the planned development.

7.1 GRADING

Based on the borehole logs, it is expected that the topsoil extends to a maximum depth of 0.6 m. All the topsoil across the site must be removed to the native undisturbed subgrade. The exposed subgrade should be compacted to 100 percent of it's Standard Proctor Maximum Dry Density (SPMDD) and then proof rolled in the presence of a geotechnical specialist to verify the competency of the subgrade. Any loose or unsuitable areas should be subexcavated as directed by the geotechnical specialist and removed.

Engineered fill material comprised of OPSS Granular B – Type II should be placed in thin unform layers up to 200 mm thick and compacted to a minimum of 100 percent of it's SPMDD, until the design subgrade level is achieved. All engineered fill operations must be carried out under full time supervision of the geotechnical speacialist.

Grade raise below proposed pavements may involve placement of approved native soils, clean, approved, on-site fill or imported granular soils such as OPSS Granular B Type I placed in maximum 300 mm thick lifts and compacted to 98 percent SPMDD.

Drainage tiles were not encountered during the geotechnical investigation. However, a map showing the size and location of the drainage tiles was provided by the client and reviewed by Stantec. The drainage tiles have a diameter that ranges between 100 mm to 250 mm. The depth of the tiles was not provided; however, it is typical for drainage tiles to be situated between 0.5 and 1.2 m below ground surface. A test pit investigation is recommended to verify the depth of the weeping tiles within the site. All weeping tile and drainpipes are to be excavated before construction or installation of fill to avoid accumulation of water below the granular subbase.



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The program for grading and earthworks should be designed in advance, and carefully executed in consideration of the time of year of execution, prevailing weather conditions, construction storm-water management control, and associated issues and concerns, and the intended end-use of the subject property as described herein.

An erosion and sediment control plan should be developed and implemented prior to commencement of construction, to direct precipitation and ground surface runoff away from the areas of construction. Identification of an outfall/discharge location will be required for this purpose. All erosion sedimentation control should be conducted in accordance with the approved for construction design drawings and specifications.

7.2 FROST DEPTH

All footings subject to frost action should be provided with 1.4 m of earth cover or equivalent thermal insulation. A 25 mm thick layer of polystyrene insulation is thermally equivalent to 600 mm of soil cover.

7.3 FOUNDATION DESIGN

All topsoil, organic material and existing drainage tiles for farming must be removed from all proposed foundation areas. Spread and/or continuous foundations founded on the approved native undisturbed very stiff to hard sandy lean clay to lean clay with sand (Cohesive Till) layer throughout the site should be placed 1.4 m BGS below exterior grade for frost protection. The footings placed on or below elevations shown in Table 7.1 may be designed for soil bearing resistance Serviceability Limit State (SLS) of 240 kPa, and a factored geotechnical resistance at Ultimate Limit State (ULS) of 330 kPa, where a geotechnical resistance factor of 0.5 has been applied.

Table 7.1 Depth and Elevation to Bearing Stratum

Revised Borehole Number	Ground Surface Elevation (masl)	Depth to Bearing Stratum (m)	Elevation of Bearing Stratum (masl)
BH01-23	266.2	1.5	264.7
BH02-23	265.5	1.5	264.0
BH03-23	265.0	1.5	263.5
BH/MW04-23	265.7	1.5	264.2
BH05-23	266.2	1.5	264.7
BH06-23	265.8	1.5	264.3
BH07-23	266.7	1.5	265.2
BH08-23	266.1	1.5	264.6
BH/MW09-23	265.3	1.5	263.8
BH10-23	265.9	1.5	264.4
BH11-23	267.1	1.5	265.6
BH12-23	266.7	1.5	265.2
BH/MW13-23	266.8	1.5	265.3
BH14-23	266.1	1.5	264.6
BH/MW15-23	267.7	1.5	266.2



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Revised Borehole Number	Ground Surface Elevation (masl)	Depth to Bearing Stratum (m)	Elevation of Bearing Stratum (masl)
BH16-23	267.9	1.5	266.4
BH17-23	267.0	1.5	265.5
BH18-23	266.7	1.5	265.2
BH/MW19-23	267.7	1.5	266.2
BH20-23	268.0	1.5	266.5
BH21-23	269.5	1.5	268.0
BH22-23	268.2	1.5	266.7
BH23-23	268.5	1.5	267.0
BH24-23	268.1	1.5	266.6
BH/MW25-23	269.9	1.5	268.4
BH26-23	269.1	1.5	267.6
BH27-23	269.6	1.5	268.1
BH28-23	269.5	1.5	268.0
BH29-23	270.3	1.5	268.8
BH30-23	269.9	1.5	268.4
BH/MW31-23	269.4	1.5	267.9
BH32-23	269.6	1.5	268.1
BH/MW33-23	268.3	1.5	266.8
BH34-23	268.7	1.5	267.2
BH35-23	266.8	1.5	265.3
BH36-23	265.7	1.5	264.2
BH37-23	264.4	1.5	262.9
BH/MW38-23	264.9	1.5	263.4
BH39-23	265.6	1.5	264.1
BH40-23	265.8	1.5	264.3
BH41-23	264.6	1.5	263.1
BH42-23	262.5	1.5	261.0
BH43-23	263.6	1.5	262.1
BH44-23	266.5	1.5	265.0
BH45-23	266.3	1.5	264.8
BH/MW46-23	260.7	1.5	259.2
BH47-23	258.8	1.5	257.3
BH/MW48-23	265.4	1.5	263.9
BH/MW49-23	260.6	1.5	259.1
BH50-23	265.8	1.5	264.3
BH/MW51-23	266.6	1.5	265.1



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Revised Borehole Number	Ground Surface Elevation (masl)	Depth to Bearing Stratum (m)	Elevation of Bearing Stratum (masl)
BH52-23	265.6	1.5	264.1
BH53-23	265.8	1.5	264.3
BH54-23	264.8	1.5	263.3
BH/MW55-23	265.8	1.5	264.3
BH56-23	267.0	1.5	265.5
BH57-23	266.8	1.5	265.3
BH58-23	264.8	1.5	263.3
BH59-23	265.5	1.5	264.0
BH60-23	266.2	1.5	264.7
BH/MW61-23	263.9	1.5	262.4
BH62-23	261.2	1.5	259.7
BH63-23	262.1	1.5	260.6
BH/MW64-23	265.2	1.5	263.7
BH65-23	264.3	1.5	262.8
BH66-23	264.2	1.5	262.7
BH67-23	262.8	1.5	261.3
BH68-23	264.3	1.5	262.8
BH69-23	263.5	1.5	262.0

Properly constructed footings less than 2 m in width founded within the native mineral soils or engineered fill subjected to the maximum Serviceability Limit State pressures above are expected to undergo total settlements of less than 25 mm and differential settlements of less than 19 mm.

To minimize the disturbance of subgrade soils, it is recommended that foundation excavations be carried out using a smooth-blade bucket. Where required, the approved native subgrade can be raised to a higher founding level (after removing the existing topsoil layers) by placing engineered fill, consisting of OPSS1010 Granular "A" or Granular "B" Type II, compacted to a minimum 100% Standard Proctor Maximum Dry Density (SPMDD). Engineered fill shall extend at least 1.0 m beyond the outer edges of the building foundations. The above recommended soil bearing pressures may also be used for the design of footings founded on engineered fill.

The footing areas must be checked and approved by a geotechnical engineer from Stantec to ensure that the soil conditions encountered at the time of construction are suitable to support the design pressure. Any disturbed soil identified during the inspection should be removed from the footing areas and replaced with engineered fill.

All footings are recommended to be covered with a minimum of 1.4 m of soil cover to protect foundation against frost action. A 25 mm thick layer of polystyrene insulation is thermally equivalent to 600 mm of soil cover.



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7.4 SLAB-ON-GRADE FLOOR

The floor of the buildings may be constructed using conventional slab-on-grade techniques following removal of the topsoil, existing drain tiles and pre-existing fill, should be inspected, proof rolled and approved by a qualified geotechnical Engineer/Technician. Fill required to raise grades beneath the slab-on-grade floor should comprise onsite native sand placed in 200 mm thick lifts and compacted to 100% Standard Proctor Maximum Dry Density (SPMDD). A minimum 150 mm thick layer of OPSS.MUNI 1010 Granular A material compacted to 100% SPMDD should be provided directly beneath the slab for levelling and uniform support purposes. A modulus of subgrade reaction (k) of 35 MPa/m may be used for the design of the floor slabs on approved native granular soils and suitably compacted structural fill material. No special underfloor drains are required provided the exterior grades are at least 300 mm lower than the finished floor slab and positively sloped away from the structures. The concrete sidewalks may be constructed using conventional slab-on-grade techniques following removal of the topsoil, existing drain tiles and pre-existing fill. The subgrade should be proof rolled, inspected, and approved by a qualified geotechnical Engineer/Technician. A minimum 150 mm thick layer of OPSS.MUNI 1010 Granular A material compacted to 100% SPMDD should be provided directly beneath the sidewalk or levelling and uniform support purposes.

The water to cement ratio and slump of the concrete utilized in the floor slab should be strictly controlled to minimize shrinkage of the slab. Control joints should be cut into the slab at maximum 4 m spacings within 12 hours of initial concrete placement in order to pre-locate shrinkage cracks. The saw-cut depths should be ¼ of the slab thickness.

7.5 SEISMIC SITE CLASS

The Seismic Site Class value, as defined in Section 4.1.8.4 of the 2012 Ontario Building Code (OBC), contains a seismic analysis and design methodology which uses a seismic site response and site classification system defined by the average shear stiffness of the upper 30 meters of the ground below the foundation level. Based on the findings of the geotechnical investigation, a Seismic Site Class « D » (very stiff Soil to hard) can be considered for this site.



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8.0 CONSTRUCTION RECOMMENDATIONS

8.1 EXCAVATIONS AND BACKFILL

8.1.1 Temporary Excavations – Soil Overburden

Temporary excavations exceeding 1.2 m in depth in which workers are expected to enter, must be carried out in accordance with the latest edition of the Occupational Health and Safety Act (OHSA). The soil classification for excavation per OHSA regulations is provided in **Table 8.1** below.

Table 8.1: Soil Types as per OHSA Regulation

Soil Type	Above groundwater	Below groundwater
Topsoil	3	4
Glacial Till	2	3

Where workers must enter a trench or excavation the soil must be suitably sloped and/or braced in accordance with the regulation requirements. The regulation stipulates safe excavation slopes by soil type as per Table 8.2.

Table 8.2: Excavation Slopes for Each Soil Type as per OHSA

Soil Type	Base of Slope	Slope inclination
1	Within 1.2 meters of bottom of excavation	1H:1V
2	Within 1.2 meters of bottom of excavation	1H:1V
3	From Bottom of excavation	1H:1V
4	From Bottom of excavation	3H:1V

Any soft/loose soils or soils encountered below the groundwater table should be classified as Type 4 soil. The maximum excavation side slope for a Type 4 soil is 3H:1V (Horizontal: Vertical) in accordance with the OHSA regulation.

Stockpiling of any materials adjacent to excavations should be avoided. Similarly, traffic should not be permitted in proximity to open excavations. For this purpose, it is recommended that all storage of materials and traffic be restricted from a 3 m wide strip around the excavations, measured from the crest of the excavation designed and constructed in accordance with the OH&S Act.

If space is restricted such that the side slope cannot be safely cut back in accordance with the OH&S Act & Regulations, if sloughing and cave-in are encountered in the excavations, or if the excavations are to remain open for a longer period, an engineered shoring system should be used for approximately up to 7 m deep bulk excavation for the proposed below grade levels.

8.1.2 Groundwater Control

An open-cut excavation for shallow footings is not expected to exceed 3 m below ground surface. As such, the groundwater may be be encountered at elevations ranging between 256.1 masl to 266.6 masl . Surface water should be directed away from open excavations. Minor groundwater or surface water inflow can be handled using filtered



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conventional sump pumping techniques. Care should be taken sump pumping is not carried out for long periods of time as it could cause migration of soil fines causing the existing soil deposits to loosen from their current state of compactness, possibly rendering recommendations provided in this report redundant.

For significant dewatering in the soil overburden the reader is referred to the Stantec hydrogeology study issued under a separate cover.

8.2 SITE SERVICING

The predominant subgrade soils beneath the service pipes will consist of very stiff to hard sandy lean clay to lean clay with sand (CL), which can provide suitable support to the proposed service utility pipes. Prior to installation of the services, the subgrade should be inspected by an experienced geotechnical engineer/technician. If any very loose or soft areas are encountered during inspection, they should be excavated and replaced with compacted granular material such as OPSS.MUNI 1010 Granular A.

The pipe bedding for the services should be conventional Class B pipe bedding comprising a minimum 150 mm thick layer of OPSS.MUNI 1010 Granular 'A' aggregate below the pipe invert. The bedding course may be thickened if portions of the subgrade become wet during excavation. OPSS.MUNI 1010 Granular A type aggregate should be provided around the pipe to at least 300 mm above the top, and the bedding should be compacted to 98% SPMDD. Service lines installed outside of heated areas should be provided with a minimum 1.2 m of soil cover or equivalent insulation for frost protection.

For the new services that will be installed, design for hydrostatic uplift is not anticipated to be required, if drainage systems are installed, and the groundwater table is maintained below the elevation of the services/utilities.

Additional specific comment to the design of buried services and utilities in view of the subsurface conditions encountered in the boreholes and in consideration of good industry practice is provided as follows.

8.3 TRENCH BACKFILL

Bedding for services should consist of OPSS Granular 'A' material. In general, a minimum of 150 mm of bedding and 300 mm of cover material is recommended.

The bedding and cover material should be compacted to achieve a minimum of 100% of the material's SPMDD.

The bedding and cover on each side of the pipe should be completed simultaneously and at no time should the difference from one side of the pipe to the other exceed 200 mm.

If groundwater is encountered in the base of the trench/excavation and dewatering is not contemplated, then the use of clear stone or "High Performance Bedding" could be considered for use as the bedding and or cover materials, subject to approval. The use of these materials will require the use of a geosynthetic wrap around the bedding, pipe, and cover material. The geosynthetic should meet the requirements of a Class I Woven Geotextile in accordance with OPSD 1860.



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These recommendations should be confirmed with the pipe manufacturer and care must be taken to avoid incurring damage to the services. Pipe manufactures may have additional/alternative requirements that should be reviewed by the Designer and Contractor prior to installation of the services.

The trenches above the specified pipe bedding should be backfilled with inorganic soils that are not excessively wet placed in 200 mm thick lifts and compacted to at least 98% SPMDD. Where the service trenches enter the buildings, the trench backfill must be compacted as structural fill to a minimum of 100% SPMDD. Any trench backfill below a pavement structure should be compacted to 100% SPMDD within 1 m from the top of subgrade level. Based on the results of in-situ moisture content tests carried out on the native overburden deposits, the materials may be suitable for reuse as trench backfill. Any overly wet material may require drying prior to reusing as backfill. Organic material (topsoil) is not considered suitable for reuse as trench backfill and if encountered, shall be separated.

To minimize potential problems, backfilling operations should follow closely after excavation so that only a minimal length of trench is exposed. Care should be taken to direct surface runoff away from the excavations. Should construction extend into the winter season then backfilling operations should be planned to ensure that backfill material is kept to a minimum and ensured that frozen material is not used as backfill.

The use of native sandy lean clay to lean clay with sand (CL) materials as backfill materials on this site will tend to retain a voided structure when placed as backfill. It is important to ensure that this material has a moisture content (within 2 percent of optimal) to allow it to be remolded and sufficient compaction effort is applied with a vibratory sheepsfoot roller to break down all chunks to achieve a non-voided condition, to avoid significant post-construction settlements and ensure proper compaction of the subgrade.

8.4 PARKING LOT, LOADING DOCKS AND DRIVEWAY

8.4.1 Overview

As part of the proposed development, the site will include features such as parking lots, loading docks, and driveways that require adequate pavement structures to support the anticipated service conditions. Such features require design considerations such as thickness of the pavement component, drainage, and proper construction techniques to ensure that the pavement will last or exceed its intended service life. The following sections indicate the design considerations and recommendations to support the design and construction of the pavement structure.

8.4.2 Pavement Structure Design and Recommendations

Pavement structures such as asphalt parking, concrete base pads for the loading docks within the facilities, as well as the concrete pads for truck parking will be constructed throughout the site. The preliminary layout indicates that the industrial facilities will have loading docks around the perimeter of each facility, with asphalt parking lots throughout the site. The preliminary site plans indicate that pavement structures will extend from Dixie Road.

Any existing fill and organic material should be removed from below the pavement areas and if required, grades should be raised with approved inorganic soils. The subgrade fill should be placed in 200 mm thick lifts and compacted to 100% SPMDD.



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The pavement component thicknesses in Table 8.3 are recommended based on the anticipated pavement usage, the frost-susceptibility, and strength of the subgrade soils.

Table 8.3: Recommended Pavement Structures

	Design Pavement Structure Thicknesses (mm)			
Material	Light Duty (Vehicle Parking Lot)	Heavy Duty (Driveways, Loading Docks)		
HL3 PG 64-28 Top course	40	40		
HL8 PG 64-28 Base course	50	70		
19 mm Granular 'A' Base	150	150		
Granular 'B' Type I or Type II Sub-base	300	400		

Concrete loading docks and dolly pads should be constructed with an equivalent granular base to the heavy-duty asphalt pavement: 150 mm Granular 'A' over 400 mm Granular 'B'. This is to achieve positive drainage at the pavement subgrade and to eliminate water accumulating at the subgrade of the concrete pads and asphalt pavement interface.

Samples of both the Granular A and Granular B Type I or Type II aggregates should be checked for conformance to OPSS.MUNI 1010 prior to utilization on site and during construction. The Granular B Type 1 subbase and Granular A base courses must be compacted to 100% SPMDD, as verified by insitu density testing by a qualified technician.

The base and sub-base materials should be compacted to a minimum of 100% SPMDD. The asphaltic concrete should be compacted to a minimum of 93-95% of Maximum Theoretical Relative Density (MRD).

The pavement subgrade and granular courses will lose their strength to support traffic loads if allowed to become saturated due to surface water or groundwater infiltration; therefore, positive drainage of the pavement and the granular courses is essential. The finished pavement surface and underlying subgrade should be free of depressions and should be sloped to provide effective drainage. Surface water should not be allowed to pond adjacent to the outside edges of pavement areas. The underlying finished sub-grade surface and the pavement (asphalt and concrete) surface should be crowned and graded to direct runoff water away from the roadway.

It is suggested that the subgrade be sloped towards catch basins/drainage facilities/ditch-lines at a minimum cross-fall of 2%. Sub-drain stubs with a minimum length of 3 m, should extend in each direction from catch basin and manhole locations in any areas of low points in the subgrade. The sub-drains should be incorporated into the design to allow for drainage of the granular materials. Drainage infrastructure should be provided at locations of changes in cross section of the pavement structure or where different pavement structures abut.

Due to the poor drainage nature of the native soils, pavement subdrains are recommended along the edges of driveway and parking lots, below the curbs. It is recommended that a 100 mm diameter perforated pipe subdrains with knitted sock geotextile be installed as per OPSD 216.021. The subdrain should be bedded in granular material and meet the requirements of OPSS 1010 (with 100% passing the 4.25 mm sieve) and be installed with the invert at



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least 250 mm below the top of subgrade. The subdrain should tie into an existing frost-free outlet, such as a catchbasin or manhole where feasible, and provide sufficient slope (≥3%) to flow to discharge points. The last meter of subdrain pipe that outlets to the catch basin should be non-perforated as shown in OPSD 216.021.

These structures should provide a typical pavement service life, provided regular maintenance is carried out during the life cycle of the pavements. The above pavement structure recommendations are based on typical expected use along with anticipated subgrade conditions. The pavement life span for the above-mentioned design will be 20 years with the installation of pavement subdrains, and 10 years without the installation of pavement subdrains. It should be noted that no traffic data was provided to Stantec at the time of this design, and thus a detailed pavement design analyses was not carried out.

8.5 STORMWATER MANAGEMENT POND

The preliminary design drawings indicate that a Stormwater Management (SWM) pond is proposed at the southwest corner of the Site. At the time of issuing the report, no grading plan was provided for the proposed SWM pond. Boreholes BH-01-23, BH02-23, BH03-23, BH/MW-04-23, BH/MW38-23, BH39-23, BH40-23 and BH41-23 are located within the proposed SWM pond location. These boreholes revealed typical site stratigraphy conditions for the site, which include topsoil, underlain by cohesive very stiff to hard sandy lean clay to lean clay with sand (CL). Boreholes BH/MW04-23 and BH/MW38-23 were installed within the SWM pond limits. Groundwater level measured at boreholes BH/MW04-23 and BH/MW38-23 was 9.16 m and 8.7 m below grade, respectively, which corresponds to elevations of 257.4 masl to 256.3 masl. A hydrogeology assessment addressing SWM pond groundwater elevation will be provided separately.

The very stiff to hard native sandy lean clay to lean clay with sand (CL) till soils can provide suitable support for the berm construction.

The ground surface grades around the pond must be sloped away to minimize the potential for overland flow that could damage the sidewalls of the pond. Preliminary design of side slopes should include inclinations of 3H to 1V above and below the permanent pond level. Steeper side slopes may be available; but should be confirmed through additional geotechnical assessment once the pond locations and elevations are determined. Slope drains may be needed to ensure stability of the slopes in areas where seepage is a concern.

For berm construction, the on-site sandy lean clay to lean clay with sand (CL) till soils should be placed in 150 mm thick loose lifts. Each lift should be uniformly compacted to achieve a minimum of 100% of the material's Standard Proctor Maximum Dry Density (SPMDD) using vibratory compaction equipment. Recommendations provided in Section 7.1 are relevant and should be considered during construction.

An allowable Factor of Safety within the range of 1.5 - 2.0 is usually considered for base heave. It is noted that there will be water inside the pond following construction, which will improve the Factor of Safety.

The Contractor should determine the appropriate groundwater control/dewatering measures are commensurate with their equipment and methods and maintain the excavation in stable conditions. The Contractor's method should be provided for the Engineer's/Owner's Representative Civil Engineer's review.



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The native surficial topsoil identified in the boreholes advanced in the area of the SWM Pond are subject to softening and loss of strength in the presence of excess moisture originating from precipitation and/or ground surface runoff.

8.5.1 Low Permeability Liner and Pond Surface Treatment

It is recommended that prior to construction; a test pit program be conducted to confirm the soil stratigraphy to the bottom of the pond including laboratory testing to estimate the infiltration rate (Coefficient of Permeability) of the cohesive till. Test pits may also help to infer the presence of and the potential impact of an underlying artesian layer.

From our project history on SWM Pond design and construction in Southern Ontario, the typical threshold hydraulic conductivity for a contained SWM Pond (wet pond) is considered to be 10⁻⁵ to 10⁻⁶ cm/s. It is likely that founding the base of the SWM Pond in the cohesive till soil will meet this requirement. However, given the sand and silt contents present within the clay till, the use of a low-permeability liner may be required. If an adequate quantity of material is not available from the excavation for the pond, then a suitably approved off-site source would need to be identified.

The minimum recommended industry standard for the thickness of the low-permeability soil liner is 300 mm. The soil liner material can be placed in a 300 mm thick lifts, and compacted using a pad foot compactor, to achieve a minimum compaction of 95% of the materials SPMDD.

It is recommended that the base and side slopes of the pond be protected against erosion using either vegetation or granular/rip rap materials. Specific consideration should be provided to inflow/outfall areas and zones of the pond that may be subject to potential overland flow. In areas of inflow/outfall structures, a rip rap meeting the requirement of OPSS 1004 should be used.

8.6 SITE MATERIALS REUSE

The native soils encountered in the boreholes included a series of cohesive till strata described as very stiff to hard sandy lean clay to lean clay with sand (CL).

These soils may be considered for reuse as subgrade fill, engineered fill or trench backfill consistent with the recommendations provided in the previous sections; however, the clayey materials could be difficult to work with, depending on their moisture levels, and the climatic conditions at the time of use. The results of the gradation analyses on these materials indicate that the soils consist mainly of silt and clay sized particles, with sand and trace to some gravel. The high in-situ moisture content and high percentage of clay and silt will make these soils difficult to handle, place, and compact, in any "less-than-ideal" weather conditions. Disturbance and loss of strength in the presence of excess moisture and/or construction traffic is a concern. It is recommended that reuse of this soil be limited to prevailing "dry" conditions and during favorable seasons.

The material can be blocky and will require breaking down during placement. It should be ensured that the material be placed in thin lifts and compacted using a sheepsfoot roller. If these soils are placed without being sufficiently broken down or placed in thick lifts, interlump voids could occur which will cause long term settlement.

This material should be placed with moisture contents that are within +/- 2.0% of the optimum moisture content level. It is recommended that the material be approved at the time of placement by qualified geotechnical personnel. Due to the high in-situ moisture content of the silt or clay materials, scarifying and drying may be required prior to placement.



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This material should not be considered as free draining. Therefore, this soil should not be used as backfill in any application requiring the use of free draining material, such as for drainage layers, foundation wall backfill, service pipe bedding, or sub-base and base layers in pavements.

Stockpiling of this soil should be minimized, as continued exposure to the natural environment, repeated cycles of wetting/drying, possible freeze-thaw cycles, and similar, will result in loss of strength and make this material practically impossible to handle, place, and compact without reworking.

9.0 SOIL CHEMSITRY

9.1 CORROSIVITY OF DUCTILE IRON

To determine the corrosion potential of the buried and ductile iron pipe and its components, analyses were carried out on four soil samples in accordance with American National Standards Institute (ANSI)/ American Water Works Association Standard ANSI/AWWA C105/A21.5. The analyses are comprised of testing the soil samples for soil resistivity, Redox potential, pH, sulfide content and moisture content and assigning points per the guidelines provided in the standard. A sample with 10 or more points is considered to represent a soil that would be corrosive to the buried ductile iron pipe and its components. The detailed results are provided in **Appendix D** and are summarized in **Table 9.1** below.

Table 9.1: Summary of Corrosivity Analyses

Borehole	Sample	Depth (m BGS)	Resistivity Ohm-cm	Moisture	Redox Potential	рН	Sulfides
BH18-23	SS5	2.3	7750	11.1	304	7.85	0.27
Total Poi	ints	2	0	2	0	0	0
BH20-23	SS4	2.3	6130	12.9	291	7.85	<0.23
Total Poi	ints	2	0	2	0	0	0
BH26-23	SS4	2.3	5080	14.5	267	7.7	<0.23
Total Poi	ints	2	0	2	0	0	0
BH31-23	SS4	2.3	6330	14	257	7.62	0.65
Total Poi	ints	2	0	2	0	0	0
BH47-23	SS3	1.5	5810	9	276	7.87	0.65
Total Poi	ints	2	0	2	0	0	0
BH/MW55-23	SS2	1.5	5400	10.3	293	7.72	0.34
Total Poi	ints	2	0	2	0	0	0
BH57-23	SS3	2.3	5260	12	273	7.72	0.76
Total Poi	ints	2	0	2	0	0	0
BH59-23	SS3	2.3	5080	13.6	268	7.77	0.46
Total Poi	ints	2	0	2	0	0	0
BH62-23	SS3	2.3	5320	12.1	290	7.79	<0.23
Total Poi	ints	2	0	2	0	0	0



Soil Chemsitry November 29th, 2024

Based on the test results, the soils at the locations of all boreholes tested are non-corrosive to the buried ductile and grey-iron pipes according to AWWA C105. However, it is important to note that the resistivity parameter is a strong indicator of the corrosivity potential, where the values above indicated moderate corrosivity. Additional protection or protective coatings, or both, will be required for all new piping placed on site. The chemical results should be reviewed by the designer/pipe manufacturer to ensure that the adequate pipe protection is considered.

9.2 SULPHATE ATTACK ON CONCRETE

The potential for sulphate attack on concrete (class of exposure) is determined using Table 3 of the Canadian Standards Association (CSA) document A23.1 19/A23.2 19 'Concrete Materials and Methods of Concrete Construction/Methods of Test and Standard Practices for Concrete', which divides the degree of exposure into the following three classes outlined in the table 9.2.

Table 9.2: Concrete Exposure Class

Degree (Class) of Exposure	Water Soluble Sulphate (SO4) in Soil Sample (%)
Very Severe (S1)	> 2.0
Severe (S2)	0.20 – 2.0
Moderate (S3)	0.10 – 0.20

The water-soluble sulphate concentrations of five tested soil samples and provided in Appendix D and are summarized in table 9.3.

Table 9.3: Summary of Sulfate Content Analyses

Doroholo	Sample	e Depth SO ₄		O a servitore	Cement	
Borehole	No.	(m BGS)	mg/kg	%	Severity	Type
BH18-23	SS5	2.3	<20	<0.002	Low	
BH20-23	SS4	2.3	30	0.0030	Low	
BH26-23	SS4	2.3	<20	<0.002	Low	
BH31-23	SS4	2.3	<20	<0.002	Low	Portland
BH47-23	SS3	1.5	22	0.0022	Low	Cement (general
BH/MW55-23	SS2	1.5	22	0.0022	Low	use)
BH57-23	SS3	2.3	23	0.0023	Low	
BH59-23	SS3	2.3	25	0.0025	Low	
BH62-23	SS3	2.3	23	0.0023	Low	

A review of the analytical test results provided in **Appendix D** shows that the measured soluble sulphate content in the tested soil samples ranged from undetectable limits, which is less than 20 mg/kg (0.002 percent) indicative of a 'low' degree of exposure of buried concrete to sulphate attack. As such, Normal Portland cement could be used in construction concrete mixes for below grade structures in contact with soil at the Site.



Closure November 29th, 2024

10.0 CLOSURE

Use of this report is subject to the Statement of General Conditions provided in **Appendix A**. It is the responsibility of QuadReal Properties who is identified as "the Client" within the Statement of General Conditions, and its agents to review the conditions and to notify Stantec Consulting Ltd. should any of these not be satisfied. The Statement of General Conditions addresses the following:

- Use of the report;
- Basis of the report;
- Standard of care;
- Interpretation of site conditions;
- · Varying or unexpected site conditions; and,
- Planning, design or construction.

Respectfully Submitted,

STANTEC CONSULTING LTD.



APPENDICES

Appendix A

APPENDIX A

A.1 STATEMENT OF GENERAL CONDITIONS



STATEMENT OF GENERAL CONDITIONS

<u>USE OF THIS REPORT</u>: This report has been prepared for the sole benefit of the Client or its agent and may not be used by any third party without the express written consent of Stantec Consulting Ltd. and the Client. Any use which a third party makes of this report is the responsibility of such third party.

<u>BASIS OF THE REPORT</u>: The information, opinions, and/or recommendations made in this report are in accordance with Stantec Consulting Ltd.'s present understanding of the site specific project as described by the Client. The applicability of these is restricted to the site conditions encountered at the time of the investigation or study. If the proposed site specific project differs or is modified from what is described in this report or if the site conditions are altered, this report is no longer valid unless Stantec Consulting Ltd. is requested by the Client to review and revise the report to reflect the differing or modified project specifics and/or the altered site conditions.

<u>STANDARD OF CARE</u>: Preparation of this report, and all associated work, was carried out in accordance with the normally accepted standard of care in the state or province of execution for the specific professional service provided to the Client. No other warranty is made.

<u>INTERPRETATION OF SITE CONDITIONS</u>: Soil, rock, or other material descriptions, and statements regarding their condition, made in this report are based on site conditions encountered by Stantec Consulting Ltd. at the time of the work and at the specific testing and/or sampling locations. Classifications and statements of condition have been made in accordance with normally accepted practices which are judgmental in nature; no specific description should be considered exact, but rather reflective of the anticipated material behavior. Extrapolation of in situ conditions can only be made to some limited extent beyond the sampling or test points. The extent depends on variability of the soil, rock and groundwater conditions as influenced by geological processes, construction activity, and site use.

<u>VARYING OR UNEXPECTED CONDITIONS</u>: Should any site or subsurface conditions be encountered that are different from those described in this report or encountered at the test locations, Stantec Consulting Ltd. must be notified immediately to assess if the varying or unexpected conditions are substantial and if reassessments of the report conclusions or recommendations are required. Stantec Consulting Ltd. will not be responsible to any party for damages incurred as a result of failing to notify Stantec Consulting Ltd. that differing site or subsurface conditions are present upon becoming aware of such conditions.

<u>PLANNING, DESIGN, OR CONSTRUCTION</u>: Development or design plans and specifications should be reviewed by Stantec Consulting Ltd., sufficiently ahead of initiating the next project stage (property acquisition, tender, construction, etc), to confirm that this report completely addresses the elaborated project specifics and that the contents of this report have been properly interpreted. Specialty quality assurance services (field observations and testing) during construction are a necessary part of the evaluation of sub-subsurface conditions and site preparation works. Site work relating to the recommendations included in this report should only be carried out in the presence of a qualified geotechnical engineer; Stantec Consulting Ltd. cannot be responsible for site work carried out without being present.



Appendix B

APPENDIX B

- **B.1** KEY PLAN
- **B.2** BOREHOLE LOCATION PLAN





300 - 1331 Clyde Avenue Ottawa, ON, Canada K2C 3G4 www.stantec.com

LEGEND

BOREHOLE

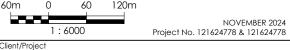


MONITORING WELL

(267.1) GROUND SURFACE ELEVATION (m)

NOTES

- COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N.
 IMAGERY: © 2022 MICROSOFT CORPORATION © 2022 MAXAR © CNES (2022) DISTRIBUTION
- 3. BASE PLAN PROVIDED BY QUADREAL PROPERTY. FILENAME: X0060_SP_Combined.dwg, SHEET A100 DATED2024-11-26.



QUADREAL PROPERTY

GEOTECHNICAL INVESTIGATION

12489 AND 12861 DIXIE ROAD, CALEDON, ONTARIO

Drawing No.

BOREHOLE LOCATION PLAN

Appendix C

APPENDIX C

- C.1 SYMBOLS & TERMS USED ON BOREHOLE RECORDS
- C.2 BOREHOLE RECORDS



SYMBOLS AND TERMS USED ON BOREHOLE AND TEST PIT RECORDS

SOIL DESCRIPTION

Terminology describing common soil genesis:

Rootmat	 vegetation, roots and moss with organic matter and topsoil typically forming a mattress at the ground surface
Topsoil	- mixture of soil and humus capable of supporting vegetative growth
Peat	- mixture of visible and invisible fragments of decayed organic matter
Till	- unstratified glacial deposit which may range from clay to boulders
Fill	- material below the surface identified as placed by humans (excluding buried services)

Terminology describing soil structure:

Desiccated	- having visible signs of weathering by oxidization of clay minerals, shrinkage cracks, etc.
Fissured	- having cracks, and hence a blocky structure
Varved	- composed of regular alternating layers of silt and clay
Stratified	- composed of alternating successions of different soil types, e.g. silt and sand
Layer	- > 75 mm in thickness
Seam	- 2 mm to 75 mm in thickness
Parting	- < 2 mm in thickness

Terminology describing soil types:

The classification of soil types are made on the basis of grain size and plasticity in accordance with the Unified Soil Classification System (USCS) (ASTM D 2487 or D 2488) which excludes particles larger than 75 mm. For particles larger than 75 mm, and for defining percent clay fraction in hydrometer results, definitions proposed by Canadian Foundation Engineering Manual, 4th Edition are used. The USCS provides a group symbol (e.g. SM) and group name (e.g. silty sand) for identification.

Terminology describing cobbles, boulders, and non-matrix materials (organic matter or debris):

Terminology describing materials outside the USCS, (e.g. particles larger than 75 mm, visible organic matter, and construction debris) is based upon the proportion of these materials present:

Trace, or occasional	Less than 10%	
Some	10-20%	
Frequent	> 20%	

Terminology describing compactness of cohesionless soils:

The standard terminology to describe cohesionless soils includes compactness (formerly "relative density"), as determined by the Standard Penetration Test (SPT) N-Value - also known as N-Index. The SPT N-Value is described further on page 3. A relationship between compactness condition and N-Value is shown in the following table.

Compactness Condition	SPT N-Value	
Very Loose	<4	
Loose	4-10	
Compact	10-30	
Dense	30-50	
Very Dense	>50	

Terminology describing consistency of cohesive soils:

The standard terminology to describe cohesive soils includes the consistency, which is based on undrained shear strength as measured by *in situ* vane tests, penetrometer tests, or unconfined compression tests. Consistency may be crudely estimated from SPT N-Value based on the correlation shown in the following table (Terzaghi and Peck, 1967). The correlation to SPT N-Value is used with caution as it is only very approximate.

Consistency	Undrained Sh	Approximate	
Consistency	Consistency kips/sq.ft.		SPT N-Value
Very Soft	<0.25	<12.5	<2
Soft	0.25 - 0.5	12.5 - 25	2-4
Firm	0.5 - 1.0	25 - 50	4-8
Stiff	1.0 - 2.0	50 – 100	8-15
Very Stiff	2.0 - 4.0	100 - 200	15-30
Hard	>4.0	>200	>30

ROCK DESCRIPTION

Except where specified below, terminology for describing rock is as defined by the International Society for Rock Mechanics (ISRM) 2007 publication "The Complete ISRM Suggested Methods for Rock Characterization, Testing and Monitoring: 1974-2006"

Terminology describing rock quality:

3, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	7
RQD	Rock Mass Quality
0-25	Very Poor Quality
25-50	Poor Quality
50-75	Fair Quality
75-90	Good Quality
90-100	Excellent Quality

Alternate (Colloquia	al) Rock Mass Quality
Very Severely Fractured	Crushed
Severely Fractured	Shattered or Very Blocky
Fractured	Blocky
Moderately Jointed	Sound
Intact	Very Sound

RQD (Rock Quality Designation) denotes the percentage of intact and sound rock retrieved from a borehole of any orientation. All pieces of intact and sound rock core equal to or greater than 100 mm (4 in.) long are summed and divided by the total length of the core run. RQD is determined in accordance with ASTM D6032.

SCR (Solid Core Recovery) denotes the percentage of solid core (cylindrical) retrieved from a borehole of any orientation. All pieces of solid (cylindrical) core are summed and divided by the total length of the core run (It excludes all portions of core pieces that are not fully cylindrical as well as crushed or rubble zones).

Fracture Index (FI) is defined as the number of naturally occurring fractures within a given length of core. The Fracture Index is reported as a simple count of natural occurring fractures.

Terminology describing rock with respect to discontinuity and bedding spacing:

Spacing (mm)	Discontinuities	Bedding
>6000	Extremely Wide	-
2000-6000	Very Wide	Very Thick
600-2000	Wide	Thick
200-600	Moderate	Medium
60-200	Close	Thin
20-60	Very Close	Very Thin
<20	Extremely Close	Laminated
<6	-	Thinly Laminated

Terminology describing rock strength:

Strength Classification	Grade	Unconfined Compressive Strength (MPa)
Extremely Weak	RO	<1
Very Weak	R1	1 – 5
Weak	R2	5 – 25
Medium Strong	R3	25 – 50
Strong	R4	50 – 100
Very Strong	R5	100 – 250
Extremely Strong	R6	>250

Terminology describing rock weathering:

Term	Symbol	Description
Fresh	W1	No visible signs of rock weathering. Slight discoloration along major discontinuities
Slightly	W2	Discoloration indicates weathering of rock on discontinuity surfaces. All the rock material may be discolored.
Moderately	W3	Less than half the rock is decomposed and/or disintegrated into soil.
Highly	W4	More than half the rock is decomposed and/or disintegrated into soil.
Completely	W5	All the rock material is decomposed and/or disintegrated into soil. The original mass structure is still largely intact.
Residual Soil	W6	All the rock converted to soil. Structure and fabric destroyed.

STRATA PLOT

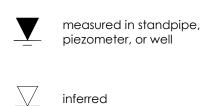
Strata plots symbolize the soil or bedrock description. They are combinations of the following basic symbols. The dimensions within the strata symbols are not indicative of the particle size, layer thickness, etc.



SAMPLE TYPE

SS	Split spoon sample (obtained by performing the Standard Penetration Test)
ST	Shelby tube or thin wall tube
DP	Direct-Push sample (small diameter tube sampler hydraulically advanced)
PS	Piston sample
BS	Bulk sample
HQ, NQ, BQ, etc.	Rock core samples obtained with the use of standard size diamond coring bits.

WATER LEVEL MEASUREMENT



RECOVERY

For soil samples, the recovery is recorded as the length of the soil sample recovered. For rock core, recovery is defined as the total cumulative length of all core recovered in the core barrel divided by the length drilled and is recorded as a percentage on a per run basis.

N-VALUE

Numbers in this column are the field results of the Standard Penetration Test: the number of blows of a 140 pound (63.5 kg) hammer falling 30 inches (760 mm), required to drive a 2 inch (50.8 mm) O.D. split spoon sampler one foot (300 mm) into the soil. In accordance with ASTM D1586, the N-Value equals the sum of the number of blows (N) required to drive the sampler over the interval of 6 to 18 in. (150 to 450 mm). However, when a 24 in. (610 mm) sampler is used, the number of blows (N) required to drive the sampler over the interval of 12 to 24 in. (300 to 610 mm) may be reported if this value is lower. For split spoon samples where insufficient penetration was achieved and N-Values cannot be presented, the number of blows are reported over sampler penetration in millimetres (e.g. 50/75). Some design methods make use of N-values corrected for various factors such as overburden pressure, energy ratio, borehole diameter, etc. No corrections have been applied to the N-values presented on the log.

DYNAMIC CONE PENETRATION TEST (DCPT)

Dynamic cone penetration tests are performed using a standard 60 degree apex cone connected to 'A' size drill rods with the same standard fall height and weight as the Standard Penetration Test. The DCPT value is the number of blows of the hammer required to drive the cone one foot (300 mm) into the soil. The DCPT is used as a probe to assess soil variability.

OTHER TESTS

S	Sieve analysis
Н	Hydrometer analysis
k	Laboratory permeability
Υ	Unit weight
Gs	Specific gravity of soil particles
CD	Consolidated drained triaxial
CU	Consolidated undrained triaxial with pore
	pressure measurements
UU	Unconsolidated undrained triaxial
DS	Direct Shear
С	Consolidation
Qυ	Unconfined compression
	Point Load Index (Ip on Borehole Record equals
Ιp	I_p (50) in which the index is corrected to a
[[reference diameter of 50 mm)

Ţ	Single packer permeability test; test interval from depth shown to bottom of borehole
	Double packer permeability test; test interval as indicated
Ö	Falling head permeability test using casing
7	Falling head permeability test using well point or piezometer

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	204.3	Clayey silt, Trace gravels Brown, loose, moist			2 -																	F		
1 -		SANDY LEAN CLAY (CL)			3 -	\sqrt{ss}	2	<u>460</u> 460	28				•											
=		Silty sand seams, traces of gravel Brown, very stiff to hard, moist			5 -	M		460		-												i i F		
2 -					6 - 7 -	SS	3	<u>460</u> 460	33					•					 			## ##		
=					8 -	SS	4	<u>460</u> 460	35	1:::				•										
3 -					9 -	/\		460		-														
	261.6		1/		10 - 11 -	ss	5	<u>430</u> 460	45						•									
		Hard, brown, moist	//		12-																	E		
4 -			//		13 - 14 -]																		
-	260.1				15-	Mag		460	21	 														
5 -	200.1	Traces of gravel, some silt seams	1		16- 17-	SS	6	460 460	31	:::: ::::														
		Very stiff to hard, grey, moist			18-	$\ \cdot\ $:::E		
6 -			//	•	19-																			
_					20 - 21 -	ss	7	<u>460</u> 460	25				•									iii E	Hard Augering	
			1/2		22 -																			
7 -			//		23 - 24 -]																		
	257.4	Hard, grey, moist	1.7		25-	Mag		300	21	-														
8 -			1/		26 - 27 -	SS	8	300 460	31	1:::														
-			//		28 -																	E		
9 -					29 - 30 -																	<u> </u>		
	255.4				31 -	ss	9	<u>410</u> 460	50]::::						•								
10-		Borehole terminated at 9.60m BGS			32-																			
					33 - 34 -																			
					35-																	E		
11-					36 - 37 -	 																#F		
					38-																	i F		
12					39-	 					III.	ijela	1 Va	ne T	est 1	kP∘				Ш		ΞΞĒ		
											R	Rem	ould	led V	ane	Tes	st, kl							
I	I									1 ^	P	ock	cet P	enet	rome	ter	Test	t LP)a					

	s	tantec	BOREHOLE RECORD N: 4 847 952 E: 595 725													B	H/	23	eet 1 of 1			
Cl	LIENT _	QuadReal Properties													_	PRC	JEC	T No).	_	12	1624778
		N 12861 Dixie Road, Caledon														DAT						NAD83
D.	ATES: B	ORING <u>03/02/2023</u>				WAT	ER I	EVEL								TPC	EL	EVAT	ION			
			—	بر			SAN	MPLES	;	ι	JNI	DR/	AIN	ED S	SHEA	AR S	TRE	NGT	H (k	Pa))	
(m)	NOI		12	LEVEL	Œ						_		50		1	00	_	150			200	
DЕРТН (m)	/AT (m)	STRATA DESCRIPTION	Ι¥	٦. ٦	ОЕРТН (<u>r</u>	CR(m)	(%) (%)					- .		' 			W_P	Ţ	N	$W_{\rm L}$
DEF	ELEVATION (m)		STRATA PLOT	WATER		TYPE	NUMBER	RECOVERY (mm) TCR(%) / SCR(%)	-VALUE RQD(%)							RBER		/IITS Γ, BLOV	⊢ : 0\S/0	— (3m	→	REMARKS
	Ш		S	≥		Ĺ	Ž	30(%)	N-V OR F									OWS/0.			•	& GRAIN SIZE DISTRIBUTION
0 -	265.7							REG TOTA	0	1	10	20	3	80 4	10 5	50 6	50	70	30	90	100	(%) GR SA SI CL
U -	265.2	TOPSOIL	7.17		1 -	\sqrt{ss}	1	<u>330</u> 460	5	•												
-	265.2	Clayey silt, Trace gravels Brown, loose, moist	(/ <u>,</u>)	ŕ	2 -	H		460														
1 -		SANDY LEAN CLAY (CL)	1//		3 -	ss	2	<u>460</u> 460	25													
1 -		sand seams, Brown, Very stiff,	/		4 -	N 33		460													:::	
-		moist			5 -	Mag	_	460	20													
2					6 -	SS	3	<u>460</u> 460	29		::		•			1::::	1:::				:::‡	
_ =			1		7 -	 		410														
-	262.9			1	8 -	SS	4	<u>410</u> 460	25				•									
3 -		Hard, brown, moist	\ <u>'</u>		10-	<u> </u>									1							
-					11-	SS	5	<u>460</u> 460	33					•							::::	
-	262.0	Traces of gravel	 //		12-																:::F	
4 -		Hard, grey, moist			13 -																:: F :: F	
-		, 5	//		14-																:::‡	
=			1//	•	15-	ss	6	410 460	35												:::[
5 -					16 - 17 -	133		460			: :				1::::	: : : :					::-	
=			•		18-																::E	
-			1	1	19-																:::	
6 -					20 -	 		460	_		1::					1::::	:::				::: <u></u>	Hard Augering
-	259.1		/-/		21-	SS	7	<u>460</u> 460	31					•							:::	5 5
-		Very stiff, grey, moist	1/		22 -																	
7 -					23 -						1::					1	1:::				:::=	
=			/,		24-	1																
0			6/		25 - 26 -	\sqrt{ss}	8	<u>460</u> 460	21) : : :								:::	
8 -			//,	lacksquare	27 -	\cap		400			1								1		:: -	
-	257.1	V +: CC + : - +	 	*	28-																	
9 =		Very stiff, wet, moist	//		29-																	
-			/-		30-	Mag		410	25													
-	256.1	D 1 1 1 . 0.60 DGG	<u>/•/</u>	1	31-	X SS	9	<u>410</u> 460	25				•		1::::	: : : :						
10		Borehole terminated at 9.60m BGS. Monitoring well installed to 9.6 m			32 -	†															:: E	
-		BGS.			33 -																::-	
-					35-																	
11-					36-																:::‡	
					37-																	
					38-																:::F	
12					39-	 					1::			<u> </u>		1::::	1:::		1:::		ΞĖ	
															est, k	Pa Fest. 1	ŀ₽∽					
											ĸ	.ciTl	vuiC	ıcu V	anc	ı CSL.	лга					

△ Pocket Penetrometer Test, kPa

	s	tantec MO	NI	ΓO	RI 1: 48	N 84	G	W 2 E	E	[] 595	[] [72	RI 5	Ξ(CC	R	D	ı		ВН	/MW(Sheet 1 of 1)4-23
L		QuadReal Properties N 12861 Dixie Road, Caledon ORING 03/02/2023																	DATU		121624778 NAD83
		oran or a server and a server a				T	,,,,,,											MPL			
DEPTH (m)	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEPTH (ft)		•	COI %L	NC EL		TR/	ATI	pp	om			TYPE	NUMBER	N-VALUE	со	WELL
0 -	265.7	TOPSOIL	<u> </u>		-0-	-		20 00 : :	20 :::		30 :::	0 <u>00</u> : : :	- 8 - 40 - ∷	0 00 : : :	::	-M		1			
- - -	265.2	Clayey silt, Trace gravels Brown, loose, moist	1,0 31		1 - 2 -	 -										<u> </u>	SS	1	5		
1 -		SANDY LEAN CLAY (CL) sand seams, Brown, Very stiff,			3 - 4 -	- : - :										\blacksquare	SS	2	25		
1 - 2 - 3 -		moist			5 - 6 -											<u>=</u> =\ \	SS	3	29		
_ 2 -					7 - 8 -	<u>:</u> 															
	262.9	Hard, brown, moist	/ /		9 -] 										A	SS	4	25		
- 3 - - -	262.0				10- 11-	- I -										\mathbb{X}	SS	5	33		
4 -	202.0	Traces of gravel Hard, grey, moist			12 - 13 -	- : - :										-					
- : - : - :		riard, grey, moist			14 - 15 -	- 1 -															
5 -					16- 17-	- :										\mathbb{X}	SS	6	35		
6 -			•/•		18-	 															
L .			9/		19 - 20 -	 										<u>-</u> 					
- : - :	259.1	Very stiff, grey, moist	//		21 - 22 -	 										<u> </u>	SS	7	31		
7 -					23 - 24 -	<u> </u>										-					
- <u>-</u>					25-	-											SS	8	21		
8 -	257.1			≖	26 - 27 -	 										- <u>1</u> /		0			
	237.1	Very stiff, wet, moist			28 - 29 -	 															
8 -	256.1				30 - 31 -	-										X	SS	9	25		
10-	230.1	Borehole terminated at 9.60m BGS. Monitoring well installed to 9.6 m	77.		32 -	- 1 -										= (1.1-1	
- :		BGS.			33 - 34 -] 															
11-					35 - 36 -	 - -															
					37 - 38 -	 															
12-	LABOT	ATORY ANALYSES:			<u>39</u> -	<u> </u>						::				=					

	s	tantec	B	OR	REH N: 48	IOI 848 1	E 82 I	RE (E: 595	COR	D					BF	10:	5-2	3	Sł	neet 1 of 1
	LIENT _														PROJ	IECT	Γ Νο.	_	12	1624778
		N <u>12861 Dixie Road, Caledon</u> BORING <u>03/01/2023</u>					ER I	LEVEL							DAT!		– Vati	ON		NAD83
			F				SAI	MPLES	<u> </u>	ι	JND				AR ST		NGTH		a)	
(m) H	TION (1	OTDATA DECODIDION	A PLC	LEVE	(H)			mm) 8(%)	<u> </u>		+	50)	1	00	+	150		200	
ОЕРТН (m)	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEРТН (ft)	TYPE	NUMBER	SCF/	.VALUE RQD(%)						RBERG			W _P ⊢	W	W _L →I REMARKS
	ш		S	Š			Ş	RECOVERY (mm) TCR(%) / SCR(%)	N-V OR R						N TEST,				•	& GRAIN SIZE DISTRIBUTION
0 -	266.2	TOPSOIL	<u> </u>		0	M				1::::	10 T:::	20	30	40	50 60) 7	'0 80	0 90	100	GR SA SI CL
=	265.8	Clayey silt, Trace gravels	· - · · ·		1 -	SS	1	<u>330</u> 460	6	•									i i i i E	
1 -		Brown, loose, moist SANDY LEAN CLAY (CL)			3 -	SS	2	460	18	-									E	
-		Silty sand seams, traces of gravel			4 -		<u> </u>	460	10	: : : : : : : : : : : : : : : : : : :										
		Brown, very stiff to hard, moist	1/		5 - 6 -	ss	3	<u>460</u> 460	29				•						: : : : E	
2 -			•//		7 -															1
=	263.5	II.d bases with	1		8 - 9 -	SS	4	<u>460</u> 460	24	-		•								
3 -		Hard, brown, moist			10-	SS	5	<u>460</u> 460	50											1
-			//		11 - 12 -			460		-									:::: ::::: F	1
4					13 - 14 -															1
=	261.4		•/		15-			460		-										
5 =	261.4	Traces of gravel, some silt seams	1		16 - 17 -	SS	6	<u>460</u> 460	35				•							-
=		Very stiff, grey, moist			18-] 														
6 -			·/		19 - 20 -															
-					21 -	SS	7	<u>460</u> 460	47					•						Hard Augering
7 -					22 - 23 -					:::::										
, -					24-															
0	258.2				25 - 26 -	ss	8	<u>460</u> 460	48										: : :	
8 -	230.2	Hard to very stiff, grey, moist	1.		27-			400												
-					28 - 29 -														E	
9 -			//		30-	SS	9	<u>460</u> 460	26	-										
-	256.6	Borehole terminated at 9.60m BGS	//		31 -	\\\\ 33	,	460	20											-
10-					33 -						: : : : : : : : : : :									1
_ 					34 - 35 -														: : :	1
11-					36-															1
-					37 - 38 -														: : :	_
12-			<u> </u>		39-	<u> </u>					E;	eld V	ane T	est b] Pa	:::::			:::: <u>:</u>	
										0	Re	emou	lded '	√ane ′	Гest, k					
										I ^	Pα	cket	Pene	rome	er Tes	t. kP	a			

C	S	tantec	В	OR	REF N: 4	IOI 848 2		RE (E: 595	C OR	D						Bl	Н0	6-2	23		S	heet 1 of 1
	LIENT _	QuadReal Properties N12861 Dixie Road, Caledon								PROJECT No										12	NAD83	
		ORING 03/01/2023				WAT	ER I	LEVEL											ΓΙΟΙ	N _		NAD63
			F	H			SAI	MPLES	;	ι	JNE			ED S		AR S	ΓRE			kPa		
DЕРТН (m)	ELEVATION (m)		STRATA PLOT	WATER LEVEL	H (ff			(%)			-	-	50	-	1	00	—	150		+	20	
EPTI	.EVA (m	STRATA DESCRIPTION	₹	TER	DEРТН (ft)	Н	BER	RY (r	LUE 2D(%							RBER			H		W	W _L → REMARKS
	団		STI	WA		TYPE	NUMBER	RECOVERY (mm) TCR(%) / SCR(%)	N-VALUE OR RQD(%)							TION TEST).3m	•	& GRAIN SIZE
0 -	265.8				0			SE SE	0		10	20	3() 4	0 5	50 6	50	70	80	90	10	DISTRIBUTION 0 GR SA SI CL
-		TOPSOIL Clayey silt, Trace gravels	1/ 1/		1 -	SS	1	<u>230</u> 460	5	•												
-	265.4	Brown, loose, moist	· \\ /-	•	2 -	\mathbb{H}		400														.
-		SANDY LEAN CLAY (CL) Silty sand seams, traces of gravel				igg		1.50														
1 -		Brown, very stiff to hard, moist	/•/		3 -	SS	2	$\frac{460}{460}$	25				•					1				
-	264.3				4 -																	
-	20113	Hard, brown, moist	1		5 -	ss	3	<u>460</u> 460	37													
2 -					6 -			460	37					::: <u>*</u>								.]
-					7 -	<u> </u>																
_					8 -	SS	4	<u>460</u> 460	50							•						· <u> </u> ·
-					9 -																	
3 -					10-	\mathbb{H}		460														
-					11 -	SS	5	<u>460</u> 460	39													
-					12 -	$\ \cdot\ $																
4 -			//		13-									::::: ::::::								-
-					14-																	
_	261.3	Traces of gravel, some silt seams			15-	\downarrow																-
		Hard, grey, moist			16-	SS	6	<u>460</u> 460	41						•							
5 -			//		17-																	
-					18-	$\ \ $																
-			,/,		19-																	
6 -			/,		20 -																	
-	259.4		1		21 -	$\int \int S$	7	<u>460</u> 460	50							•						Hard Augering
-		Borehole terminated at 6.55 m BGS	-		22 -	H		400						<u> </u>								
7 -																						
-					23 -																	
_					24-	†																
					25-	†																
8 -		[26-	<u>† </u>					F	ield	:::: Var	ne Te	st, k	liiii Pa	<u> </u>	1:::	:1::			<u> </u>
										0	R	emo	ould	ed V	ane T	Γest, l		_				
										Δ	P	ock	et Pe	enetr	omet	er Te	st, kl	₽a				

C	s	tantec	B	OR	REF N: 4	IOI 848 2	E 95 I	RE (E: 595	COR 825	D						Bl	Н0)7-	23		S	heet 1 of 1
	LIENT _															PRO			No.	_	12	21624778
		N <u>12861 Dixie Road, Caledon</u> BORING <u>03/01/2023</u>					ER I	LEVEL								DAT TPC			TIC	N		NAD83
		<u> </u>	_	یا			SAI	MPLES	;	ι	JNE	RAI	NEI) SI		R S						
(m)	ELEVATION (m)		STRATA PLOT	WATER LEVEL	(<u>ff</u>						-	5	0	-	10	00	-	15	50	-	20	0
ОЕРТН (m)	EVAT (m)	STRATA DESCRIPTION	ATA	ER I	DEPTH (ft)	Щ	Ä	SCR	.VALUE RQD(%)	WA	ATER	CON	TEN	Т&А	TTEF	RBERG	3 LIN	/IITS	7	<i>V_P</i> ├ ──	W	<i>W</i> _L
DE	日		STR	WAJ	□	TYPE	NUMBER	OVEF (%) /	J-VAL RRQ							LION .					V	REMARKS & GRAIN SIZE
-	266.7						_	RECOVERY (mm) TCR(%) / SCR(%)	-N N							TEST 0 6					10	DISTRIBUTION
0 -	266.4	TOPSOIL			1 -	SS	1	250 460	4	•												GR SA SI CL
_		Clayey silt, Trace gravels Brown, loose, moist	//		2 -			700														_
1 -		SANDY LEAN CLAY (CL)			3 -	\sqrt{ss}	2	<u>460</u> 460	22			•										
=	265.2	Silty sand seams, traces of gravel Brown, very stiff to hard, moist	//	•	5 -			460														
2 -		Hard, brown, moist			6 -	X SS	3	<u>460</u> 460	33				•) : : : : :								
			//		8 -	X SS	4	460	50													
2					9 -	N 33	-	<u>460</u> 460	30													
3 -					10- 11-	SS	5	<u>280</u> 460	48						•							
-			/,		12 -			400														
4 -			9/		13 - 14 -					::::												_
=			//		15-	\bigcup		460	_													Hard Augering
5	261.8	Traces of gravel, some silt seams	1.		16-	SS	6	<u>460</u> 460	50	- : : : :					•): : : : 						
=		Hard, grey, moist			17 - 18 -	1																
-			/-		19-	1																
6 -					20 -	SS	7	<u>380</u> 460	42						•							
-					22 -	1		460														_
7 -					23 -	1																
-			1//		24 - 25 -	<u> </u>		410]
8 =	258.6				26-	SS	8	<u>410</u> 460	44						•							
		Hard to very stiff, grey, moist	//		27 - 28 -	1																
9 -			//		29-																	
-	257.1				30 - 31 -	ss	9	<u>460</u> 460	42)							
-	257.1	Borehole terminated at 9.60m BGS	<u> </u>		32 -			460														
10-					33 -	1																
-					34 - 35 -																	
11					36-	1																
-					37 - 38 -	1																_
12-					39-																	
												ield V emou				est, l	кРа					
										_ م ا						er Te		Pa				

	s	tantec	В	OF	REF N: 4	IOI 848 1	LE 91 I	RE (E: 595	C OR	D						В	Н0	8-2	23		SI	neet 1 of 1
	LIENT _	-														PRO	DJEC	ΤN	0.	_	12	1624778
		N <u>12861 Dixie Road, Caledon</u> BORING <u>03/01/2023</u>				WAT	TER I	LEVEL									TUM		TIO!			NAD83
D.		OKING 95/01/2025	Ŀ	بر				MPLES			UN	DR		ED S		AR S					a)	
- (ш)	MOIL (\ PLO	LEVE	H (ft)						-		50		1	00	-	150		+-	20	
ОЕРТН (m)	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEPTH (ft)	TYPE	NUMBER	RY (r / SCR	ALUE 2D(%							RBER			F		W -	W _L →I REMARKS
	Ш		S	×		≱	NON	RECOVERY (mm) TCR(%) / SCR(%)	N-VALUE OR RQD(%)							ATION N TES).3m	•	& GRAIN SIZE DISTRIBUTION
0 -	266.1	TOPSOIL	7/1/2		0			A ST			10	20) 3	80 4	40	50 (50	70 : :::	80	90	10	(%) GR SA SI CL
-	265.6	Clavey silt. Trace gravels	// · //		1 -	ss	1	280 460	5	•												
-		SANDY LEAN CLAY (CL)			2 -																	
1 -		Silty sand seams, traces of gravel Brown, very stiff to hard, moist			3 -	ss	2	<u>410</u> 460	17			•										_
-		, ,			4 -	/\		100		-												
-			,/,		5 -		1	460	20	-												
2 -					6 -	SS	3	<u>460</u> 460	30													
-			1./		7 -																	
_					8 -	SS	4	$\frac{460}{460}$	24				•									
3 -	263.0		//		9 -																	
-		Hard, brown, moist			10-	SS	5	<u>460</u> 460	39						•							
-			/		11 -	<u> </u>		460														1
-					13-																	
4 -					14-																	
-			/		15-	<u> </u>																Hard Augering
	261.2		•/		16-	ss	6	<u>460</u> 460	49							•						Haid Augering
5 -		Traces of gravel, some silt seams Hard, grey, wet			17-																	
-					18-	<u> </u>																_
-					19-																	
6 -			•		20-																	_
-	259.5		/		21 -	SS	7	460 460	47						•							
- -		Borehole terminated at 6.55 m BGS			22 -																	
7 -					23 -																	
-					24-	1																
-					25-																	
8 -			<u> </u>		26-	<u> </u>						ii ijeld	1 V2	ne T	est, k	Pa	1::::			Ш	<u>:::</u> }	
										0	I	Rem	oul	led V	/ane '	Test,		ь.				
											ı I	ocl	ket F	'enet	rome	ter Te	st, k	Рa				

Stantec BOREHOLE RECORD N: 4 848 271 E: 596 040													B	H/I	МW	'09.	-23	neet 1 of 1		
	LIENT _																T No.	-	12	1624778
		N <u>12861 Dixie Road, Caledon</u> SORING <u>03/01/2023</u>				WAT	ER I	LEVEL								ΓUM ELE		ON _		NAD83
		-	Ŀ	ير			SAI	MPLES		U	INDI		IED S	SHEA	R S		NGTH		a)	
1 (m)	TION (PLO	LEVE	(ff)			(%)			+	50	+	10	00	+	150	-	200	
DЕРТН (m)	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEPTH (Щ	3ER	RY (⊓ SCR	-VALUE RQD(%)	WA	TER (CONT	ENT &	ATTE	RBER	G LIM	ITS	₩ _P	W	<i>W</i> _L −1
	日		STE	WA		TYPE	NUMBER	RECOVERY (mm) TCR(%) / SCR(%)	N-VA OR RG								, BLOW)WS/0.3		•	REMARKS & GRAIN SIZE
0 -	265.3				_		_	REC	-0								70 80) 100	DISTRIBUTION
ָ -	264.8	TOPSOIL Clayey silt, Trace gravels	1/2 // 2/1/2		1 -	\sqrt{ss}	1	<u>360</u> 460	5	•										
-		Brown, loose, moist	<u> </u>		2 -				_										i i i i i i	
1 -		SANDY LEAN CLAY (CL) sand seams, Brown, Very stiff,	//		3 - 4 -	SS	2	<u>460</u> 460	24			•								_
-		moist	//		5 -	SS	3	460	24											_
2					6 - 7 -	N 33	3	<u>460</u> 460	24										: : : : 	
-	262.5		1		8 -	ss	4	<u>460</u> 460	28										: : :	
3 =	202.3	Hard, brown, moist	1.		9 - 10-			400											=====	
					11 -	\sqrt{ss}	5	<u>460</u> 460	43					•					::::E	
_			//		12 - 13 -	<u> </u>													: : :	
4 -	• • • •				14-														E	
-	260.7	Traces of gravel	1//		15-	SS	6	460	35											
5		Hard, grey, moist			16- 17-			460											<u> </u>	_
-			/•/		18-															
6 =					19 - 20 -				_										-	H1 A
-	258.7		1/2		21 -	\sqrt{ss}	7	<u>460</u> 460	36				•						<u> </u>	Hard Augering
7 -		Silt seams Hard, grey, moist	//		22 - 23 -]														
, =		, 87,	/•		24 -	$\ \cdot\ $:::::	
-			//		25 - 26 -	SS	8	<u>460</u> 460	43					•					Ē	
8 -			,/,		27-	1		460												
-	256.7	Traces of gravel	1,7		28 -															
9 =		Hard, wet, moist		T	29 - 30 -	<u> </u>													:::::E	
-	255.7		/-/	_	31-	SS	9	<u>460</u> 460	39				•							
10		Borehole terminated at 9.60m BGS. Monitoring well installed to 9.6 m			32 -	 													E E	
-		BGS.			34-	$\ \cdot\ $														
11					35- 36-	<u> </u>														
11-					37-														E	
-					38-	1													: : : : [
12-				1	39-	<u> </u>					Fie	ld V	ane To	est, kl	liiii Pa	Liii	1::::1	::::1	:::: <u>:</u>	
													ded V			kPa				

△ Pocket Penetrometer Test, kPa

C	s	tantec MO	NI	ГО	RI 1: 48	N(848	G \\ 271	WE:	590	L]	RI	EC	CC	R	ZD)		ВН	Sheet 1 of 1 /MW09-23
CLIENTQuadReal Properties														PROJE	CCT No. <u>121624778</u>				
		N 12861 Dixie Road, Caledon																DATU	
D.	ATES: E	ORING 03/01/2023				W	ATE	R LE	VEL	_					_				LEVATION
(n	Z		10 <u>.</u>	VEL	.				VAF	POL	JR					SA	MPL	ES	_
DEРТН (m)	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEРТН (ft)		C	CONC				ON	IS			ш	ER	핌	WELL
)EP	LEV	5	₹	4TEF	DEP.			%LEL			•	pp	nm			TYPE	NUMBER	N-VALUE	CONSTRUCTION
			S	Š			_	, vL	_		_	۲۲	*111			-	ž	Ż	
- 0 -	265.3				0	•	20		40 200	6 30	0)0	80 40	0						
	264.8	TOPSOIL	1/ 1/		1 -]:									=	SS	1	5	
<u> </u>	204.0	Clayey silt, Trace gravels Brown, loose, moist			2 -	: :													
1 -		SANDY LEAN CLAY (CL)			3 -	1::					::		::		\mathbb{K}	SS	2	24	
1 - 2 -		sand seams, Brown, Very stiff, moist			4 - 5 -]:									<u> </u>				
- :		moist			6 -	: :									\mathbb{X}	SS	3	24	
- 2 - -			./,		7 -	-													
	262.5		/		8 -										$\exists \!\! \setminus$	SS	4	28	
3 -		Hard, brown, moist	1		9 - 10-														
_ =					11 -	: :									\mathbb{K}	SS	5	43	
			/-		12 -	:									=				
4 -					13 -	+					11		::		3				
4 -	260.7		<u>//</u>		14 - 15 -										1				
-		Traces of gravel Hard, grey, moist	1/		16-										\mathbb{K}	SS	6	35	
5 -		Hard, grey, moist			17-	-									=				
			1.		18-	1									3				
6 -					19 -	1							::		1				
	258.7		•/>		20 - 21 -										\mathbb{X}	SS	7	36	
		Silt seams	1.7		22 -	:									7				
7 -		Hard, grey, moist			23 -	-					::		::		-				
<u> </u>			//		24 - 25 -										1				
8 -			1/2		26-											SS	8	43	
	2567		,/,		27-	1:									1				Ţ ; : ∰.::
	256.7	Traces of gravel	1,7		28-	1]				
9 -		Hard, wet, moist	1/	▼	29 - 30 -	H									1				
	255.7		//	_	31 -											SS	9	39	[清]
10-	255.7	Borehole terminated at 9.60m BGS.			32 -	1:									=				
_ 10 -		Monitoring well installed to 9.6 m BGS.			33 -	1							: :		=				
<u> </u>		1200.			34 - 35 -]:									4				
11-					36-								<u> </u>]				
					37-	:									4				
12					38-	1:									<u> </u>				
12.	1				39 -	 	: : :	::::	1::	::	::	::	::	::	+				I

LABORATORY ANALYSES:

	s	tantec	B	OR	REH N: 48	OI 848 2	E 70 I	RE (E: 595	C OR	E						B	H1	0-2	23		Sh	eet 1 of 1
	LIENT _				PROJECT No												_	12	1624778			
		N 12861 Dixie Road, Caledon				WAT	TED I	LEVEL								DAT						NAD83
D.	ATES: E	ORING 03/01/2023				WAI		MPLES			UN	IDR	:AIN	IED	SHE	AR S						
(m)	NO!		PLOJ	EVE	(H)		JAI					·—	50			00		150		+	200	1
ОЕРТН (m)	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEРТН (ft)	Ш	띪	KY (m SCR(.UE D(%)	w	/ATI	ER C	ONT	ENT 8	ATTE	RBER	G LIM	ITS	W _j	P	w O —	W _L →
DE			STR	WAT		TYPE	NUMBER	RECOVERY (mm) TCR(%) / SCR(%)	N-VALUE OR RQD(%)	D,	YNA	AMIC	CON	IE PE	NETR/	ATION N TEST	TEST	, BLO	NS/0	.3m	▼	REMARKS & GRAIN SIZE
0 -	265.9						_	RECO	20	3	10	20	0	30	40	50 <i>(</i>	50	70	80	90	100	& GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
0 -		TOPSOIL Clayey silt, Trace gravels	1/ 1		0			220														
-		Brown, loose, moist	<u>\\\/</u>		1 -	SS	1	330 460	6	•	•											
-	265.4	SANDY LEAN CLAY (CL)	/· ×							: : : : : : : : :												
-		Silty sand seams, traces of gravel Brown, very stiff to hard, moist			2 -																	
-		Brown, very still to haid, moist	/•/	,	3 -			460														
1 -						SS	2	460 460	29													
-			•/•		4 -					 												
-					_																	
-			1		5 -			460														
-					6 -	SS	3	460 460	38													
2 -										1												
-					7 -																-	
-			/		8 -																-	
-			,	,		SS	4	460 460	46						•							
-					9 -																	
3 -					40																	
-					10-				_													
-			//		11 -	SS	5	460 460	50							•						
-	262.4	Borehole terminated at 3.55 m BGS	/•	_													<u> </u>					
-					12 -																	
-					13-																-	
4 -																						
-					14-																	
-																						
-					15-																	
-					16-																-	
5 -			1				<u> </u>				:1: :	Fiel	d V	ane T	est, k	Pa	1::::			iilii	<u>::1</u>	
											3	Ren	noul	ded \	Vane '	Test, l ter Te		Pa				
l	l									1 4	_	1 00	AUL.	LUIC	TOTTIC	w 10	لكا وال	ı u				

C	S	tantec	В	OR	REH N: 4	IOI 848 3	E 80 I	RE (E: 595	C OR 879	D						В	H1	1-	23	3	5	Sheet 1 of 1
													1	21624778								
		N <u>12861 Dixie Road, Caledon</u> BORING <u>03/03/2023</u>				WAT	ER I	LEVEL								DAT TPC			TIC	ON		NAD83
		<u></u>	F	Ы			SAI	MPLES		ı	JNE			ED S		AR S		NG	ТН		a)	
(m) H	TION (OTDATA DEGODIDION	A PLC	LEVE	H (ft)			nm) 8(%)	<u> </u>		-		5 0	-+	1	00		15		+		00
ОЕРТН (m)	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEPTH (ft)	TYPE	NUMBER	:RY (i	ALUE QD(%							RBER				W _P ⊢	0	W _L I ■ REMARKS
	Ш		S	>		}	Ş	RECOVERY (mm) TCR(%) / SCR(%)	N-VALUE OR RQD(%)	ST	AND	ARD	PEN	NETR	OITA	N TES	T, BLC	OWS/	/0.3n	n	•	& GRAIN SIZE DISTRIBUTION
0 -	267.1	TOPSOIL	7/1/4		0	\					10	20	30	0 4	10	50 (50	70	80	9	0 10	OO GR SA SI CL
-	266.6	Clavey silt. Trace gravels	<u>''. '\</u>		1 -	ss	1	380 460	5	•												-
-		SANDY LEAN CLAY (CL)			2 -				_													
1 -		Silty sand seams, traces of gravel Brown, very stiff to hard, moist			3 -	ss	2	<u>430</u> 460	30				•) 								-
-			1		4 -																	-
-			•/		5 -	ss	3	<u>460</u> 460	29													- -
2 -				1	6 -			460														
-			! /-/		7 -				_													
-	264.3				8 -	SS	4	410 460	24				•									_
3 -		Hard, brown, moist		•	9 -																	-
- -			/		10 -	SS	5	<u>460</u> 460	40						•							-
-					11 -	<u> </u>		460														<u>- </u>
-			,,		13 -																	
4 -			/		14-																	
_			•		15-																	_
-	262.2				16-	ss	6	<u>430</u> 460	50							•						
5 -		Traces of gravel, some silt seams Very stiff, grey, moist			17-																	-
-			/,		18-	 																-
-			//		19-	•																-
6 -					20 -																	Hard Augering
-	260.5		/	1	21 -	SS	7	460 460	50							•						-
-		Borehole terminated at 6.55 m BGS			22 -																	
7 -					23 -						1											<u>- </u>
-					24-																	
-					25-																	-
8 -					26-						E	ield	Va	ne T	est, k	Po.	1					-
											R	emo	uld	ed V	ane '	Test,						
											P	ock	et P	eneti	rome	ter Te	st, k	Pa				

C	S	tantec	В	OR	REF N: 4	IOI 848 4	 00 1	RE (E: 595	C OR	D					BI	H12	2-2	.3	-	Sheet 1 of 1
CLIENTQuadReal Properties PROJECT No												_1	21624778							
		N <u>12861 Dixie Road, Caledon</u> BORING <u>03/03/2023</u>				WAT	TER I	LEVEL							DAT			ION		NAD83
D.		OKING <u>03/03/2023</u>	 -	یا				MPLES	<u> </u>	l	JND	RAIN	NED S		AR ST					
(m)	ELEVATION (m)		STRATA PLOT	WATER LEVEL	1 (ft)						+	50		1	00	+	150		2	00
ОЕРТН (m)	EVA ⁻ (m)	STRATA DESCRIPTION	ATA.	TERI	DEPTH (ft)	<u>Щ</u>	3ER	₹ SCR	LUE PD(%)	WA	TER	CONT	ENT &	ATTE	RBERG	3 LIMI	TS	₩ _P	W	$W_{\rm L}$
D	ᆸ		STE	WA		TYPE	NUMBER	RECOVERY (mm) TCR(%) / SCR(%)	N-VALUE OR RQD(%)						TION T				Sm V	REMARKS & GRAIN SIZE
0 -	266.7				0			REC TOTA	_0										90 1	DISTRIBUTION $^{(\%)}$ GR SA SI CL
-		TOPSOIL Clayey silt, Trace gravels	7, 7,	1	1 -	ss	1	<u>230</u> 460	4	•										<u> </u>
-	266.3	Brown, loose, moist			2 -	<u> </u>		100												
-		SANDY LEAN CLAY (CL) Silty sand seams, traces of gravel			3 -	igg		410												<u>-</u>
1 -		Brown, very stiff to hard, moist	·/	•	4 -	SS	2	410 460	25			•								
-					5 -															
- -	264.9		•/•		6 -	ss	3	<u>460</u> 460	25			•								<u>-</u>
2 -		Hard, brown, moist			7 -	H		100												<u> </u>
-			/		8 -	igg		460												<u> </u>
-					9 -	SS	4	<u>460</u> 460	38											
3 -					10-												: : : : : : : : : : : : : : : : : :			+
- -			/,		11 -	ss	5	$\frac{430}{460}$	43					•						<u> </u>
_					12 -			400		1										
]					13-															
4 -					14-															
-	262.2		/_/		15-															
-		Traces of gravel, some silt seams Hard, grey, moist			16-	$\int \int S$	6	380 460	50						•					50 For 4" Refusal
5 -		76 37			17-	 		100		<u> </u>										
-					18-															<u>-</u>
-					19-															
6 -			/,		20-															<u> </u>
-					21 -	ss	7	<u>360</u> 460	50						•					
-	260.2	Borehole terminated at 6.55 m BGS	<u> </u>		22 -	1		100												
7 -					23 -															-
, - -					24 -															 -
- -					25-															
-					26-															
8 -			1	1	1 20	1	1	I.	I				ane T			-::::	11111	1::::	1::::	1 1
															Γest, k er Te		' a			

	S	tantec	B	OR	REH N: 48	OI 848 2	E 99 E	RE(E: 595	C OR	D					В	H/]	MV	V13	-2	She 3	et 1 of 1
CI	LIENT _	QuadReal Properties												_	PRC	JEC	T No	•	1	21	<u>624778</u>
		N 12861 Dixie Road, Caledon													DA	ΓUM]	NAD83
D	ATES: B	ORING <u>03/03/2023</u>				WAT	ER I	LEVEL													
(u	z		10.	VEL	(ft)		SAI	MPLES		U	NDI	RAI 0,5			AR S 00	TRE	NGT 150			00	
TH (r	ATIC n)	STRATA DESCRIPTION	A PL	Z LE	TH (#		~	(mm)	(% =		+	+				+		W _P	W	+	$W_{ m L}$
DЕРТН (m)	ELEVATION (m)		STRATA PLOT	WATER LEVEL	DEPTH (TYPE	NUMBER	ERY / SC	.VALUE RQD(%)					ATTE			IITS , BLOV	√2/0.3/	0	, [REMARKS
	ш		တ	Š		←	S S	RECOVERY (mm) TCR(%) / SCR(%)	N-V, OR R								, BLOV DWS/0.		•		& GRAIN SIZE DISTRIBUTION
0 -	266.8		10/		0)	1	0	20	30	40 5	50	60	70 8	80 9	0 1	00	(%) GR SA SI CL
-	266.3	TOPSOIL Clayey silt, Trace gravels	1/2 V	1	1 -	8	1	<u>200</u> 460	4	•										Ė	
		Brown, loose, moist	/•/		2 -															Ħ	
1 -		SANDY LEAN CLAY (CL)			3 -	SS	2	<u>430</u> 460	24			•								Ħ	
-		Sand seams, traces of gravel Brown, Very stiff to hard, moist	·/		5 -			460												Ė	
2 -		•			6 -	SS	3	<u>460</u> 460	41					•						E	
_ =			•//		7 - 8 -	M ==		150												F	
-			/		9 -	SS	4	460	23											F	
3 -	263.7	Hard, brown, moist	/•/		10-	SS	5	<u>460</u> 460	50											F	
			•//		11 - 12 -	N 55		460												Ħ	
4 -			/,/		13 -	 				:::::										Ħ	
					14-															E	
_ =	261.9		./,		15- 16-	SS	6	<u>410</u> 460	50						•						
5 -		Traces of gravel Hard, grey, moist	//		17-			400												Ē	
-		11	/•		18-																
6 -			//		19 - 20 -															H	
=	260.2				21 -	SS	7	<u>430</u> 460	49					•	 					E	
7 -		Silty sand seams Hard, grey, moist	//		22 -															F	
/ =		Hard, grey, moist	/•	▼	23 – 24 –															F	
4			//	_	25-	Maa		130												E	
8 -					26 - 27 -	SS	8	<u>130</u> 460	50					1						E	
-	258.2		1/2		28-															Ė	
9 -		Traces of gravel Hard, wet, moist	//		29-															Ē	
		, ,	/•		30 - 31 -	SS	9	<u>230</u> 460	50												
-	257.2	Borehole terminated at 9.60m BGS.	/•/	-	32 -	/\~~		460												Ħ	
10-		Monitoring well installed to 9.6 m			33 -									1::::						Ė	
-		BGS.			34-															H	
11-					35- 36-															E	
					37 -																
-					38-															F	
12-					39-	T.I.					Fie	ld V	ane T	est, kl	⊥:::: Pa	1:::	:1::::	L	L	ΙL	

■ Remoulded Vane Test, kPa△ Pocket Penetrometer Test, kPa

	s	tantec ^{MO}	NI	ΓO	RI N: 48	NG WELL RECORD 848 299 E: 595 665	Sheet 1 of 1 BH/MW13-23
L	LIENT _ OCATIO: ATES: E	QuadReal Properties				WATER LEVEL	PROJECT No. 121624778 DATUM NAD83 TPC ELEVATION
DEPTH (m)	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEPTH (ft)	VAPOUR CONCENTRATIONS • %LEL ppm SAMPL	WELL CONSTRUCTION
- 0 - - - - - - 1 -	266.8 266.3	TOPSOIL	1/2 1/2		0 1 - 2 - 3 -	\$\bullet\$ 20 40 60 80	4 24
2 -		Sand seams, traces of gravel Brown, Very stiff to hard, moist			4 - 5 - 6 - 7 - 8 -		23
- 3 - - 4 -	263.7	Hard, brown, moist			9 - 10 - 11 - 12 - 13 - 14 - 15 -	SS 5	50
5 -	261.9	Traces of gravel Hard, grey, moist			16- 17- 18- 19- 20-	SS 6	50
- 7 -	260.2	Silty sand seams Hard, grey, moist		Ţ	21 - 22 - 23 - 24 - 25 -		49
- - - - - - - - - - - - - - - - - - -	258.2	Traces of gravel Hard, wet, moist			26 - 27 - 28 - 29 - 30 -	SS 8	50
- - - - - - - - - - - - - - - - - - -	257.2	Borehole terminated at 9.60m BGS. Monitoring well installed to 9.6 m BGS.	\\\\-\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		31 - 32 - 33 - 34 - 35 - 36 - 37 -	SS 9	50

LABORATORY ANALYSES:

	s	tantec	B	OR	REH N: 48	IOI 848 2	LE 05 I	RE (E: 595	C OR	D					В	Н1	4-2	23	,	She	eet 1 of 1
C	LIENT _	QuadReal Properties											PRC)JEC	T No	э.	1	121	1624778		
		N 12861 Dixie Road, Caledon														ΓUM					NAD83
D.	ATES: E	BORING 03/02/2023	<u> </u>			WA]		LEVEL	-	<u> </u>											
Ξ	Z		LOT	VEL	lf)		SAI	MPLES	; 	'	JNDI	RAIN 50	ED 8		AR S 00	IRE	NG 1 150			200	
DEРТН (m)	(m)	STRATA DESCRIPTION	TAP	R	DEPTH (ft)		<u>~</u>	(mr SR(%)	(%) (%)		1	ı	'					Wp	· W	7	$W_{\rm L}$
DEP	ELEVATION (m)		STRATA PLOT	WATER LEVEL		TYPE	NUMBER	ERY ()/S(/ALU ?QD(CONTE CON						⊢ .ws/0	3m \	 ▼ [REMARKS
			0)	>		-	2	RECOVERY (mm) TCR(%) / SCR(%)	N-VALUE OR RQD(%)			RD PE							•	•	& GRAIN SIZE DISTRIBUTION
0 -	266.1	TOPSOIL	<u> </u>		0	\ \				1	0 2	20 3	30 4	40 5	50 G	50	70	80	90 1	100	(%) GR SA SI C
-	265.6	Clayey silt, Trace gravels	1/2 1	1	1 -	SS	1	380 460	7	•											
-	203.0	Brown, loose, moist SANDY LEAN CLAY (CL)			2 -															H	
1 -		Silty sand seams, traces of gravel			3 -	SS	2	460	28											:	
1 -	264.9		<u>//</u>		4 -	133		<u>460</u> 460	20												
-		Hard, brown, moist	//		5 -	<u> </u>															
-					6 -	ss	3	<u>460</u> 460	42					•							
2 -			./		7 -	H															
-					8 -	H		460													
-					9 -	SS	4	460 460	36				•								
3 -																					
-					10-	SS	5	330 460	50												
-			//		11-			460													
-					12 -	<u> </u>															
4 -			,/,		13-	<u> </u>				:::::							1::::			:	
-			//		14-	 														F	
-	261.2				15-	W		460												F	
5 -	261.2	Traces of gravel, some silt seams	/•/		16-	SS	6	<u>460</u> 460	37												
-		Very stiff, grey, moist			17-																
-			/•/	,	18-																
-					19-																
6 -			•//		20 -	\vdash															50 For 5" Refusa
-	259.6			1	21 -	SS	7	$\frac{460}{460}$	50						•						
-	237.0	Borehole terminated at 6.55 m BGS			22 -															E	
7 -					23 -												<u> </u>		-	+	
					24-	<u> </u>														[F]	
-					25-	$\ \ $														H	
					26-																
8 -			'					1				ld Va									
												moule cket I					Pa				

	S	tantec	B	OR	REH N: 48	IOI 848 2	E 02 I	RE(E: 595	COR	D						B	H/]	ΜV	V15	5-2	She 3	et 1 of 1
Cl	LIENT _	QuadReal Properties													_	PRC	JEC	T No).	1	121	624778
		N <u>12861 Dixie Road, Caledon</u> SORING <u>02/14/2023</u>					TER I	LEVEL									ΓUM		TON			NAD83
D.		ORING <u>02/14/2023</u>						MPLES		l	IND	RAI	NE) S				NGT				
(m)	ELEVATION (m)		STRATA PLOT	WATER LEVEL	(L						+	50		-		00	_	150			200	
DЕРТН (m)	EVAT (m)	STRATA DESCRIPTION	ATA	ERL	DEPTH (ш	ER.	۲۲ (m SCR(.VALUE RQD(%)	WA	TER	CON	TEN	Γ& Α	ATTER	RBER	G LIN	ITS	₩ _P	W		<i>W</i> _L ⊣
DE	ELF		STR	WAT	8	TYPE	NUMBER	OVER (%) / 3	I-VAL									, BLOV		m \	•	REMARKS & GRAIN SIZE
	267.7						2	RECOVERY (mm) TCR(%) / SCR(%)	유									ows/0.		90 1	100	DISTRIBUTION (%) GR SA SI CL
0 -	267.3	TOPSOIL	· · · · · · · · · · · · · · · · · · ·		 0 	ss	1	<u>460</u> 460	3	•											F	OK OA OI OL
-	207.5	Clayey silt, Trace gravels Brown, loose, moist	1		2 -																E	
1 =		SANDY LEAN CLAY (CL)			3 -	\sqrt{ss}	2	360 460	23			•			<u> </u>						<u> </u>	
-		Sand seams, traces of gravel Brown, Very stiff to hard, moist	//	_	5 -	Maa	_	460	26												Ē	
2					6 - 7 -	SS	3	<u>460</u> 460	26		1		?								-	5 32 27 36
-	265.0				8 -	ss	4	<u>460</u> 460	29				•								Ė	
3 -	265.0	Hard to very stiff, brown, moist	//		9 -			460													E	
-					111-	ss	5	<u>460</u> 460	38					•							E	
-			/-	•	12-																E	
4 -					13 - 14 -]															E	
-	263.1	Traces of gravel	1//	•	15-	ss	6	460	25												Ē	
5		very stiff, grey, moist			16 - 17 -	NSS	0	460	23												: F : E	
-			/./		18-																Ė	
6					19 - 20 -																E	
-	261.2		•//		21 -	\sqrt{ss}	7	<u>410</u> 460	28				•									
7 -		Silty sand seams Hard, grey, moist			22 -																E	
, - -		Tidid, groy, moist	//		24-																Ė	
-			//		25-	ss	8	330 460	50												F	
8 -					26 - 27 -			460	30												E	
-					28-																	
9 -					29 - 30 -	<u> </u>															E	
-	258.1		//		31-	SS	9	<u>460</u> 460	50						•						Ē	
10		Borehole terminated at 9.6 m BGS. Monitoring well installed to 9.6 m			32 -																Ē	
-		BGS.			34 -																E	
1.2					35-																Ę	
11-					36 - 37 -																E	
-					38-																E	
12-					39-	<u> </u>	<u> </u>				Fie	eld V	∷ : ∕ane	Te	st, kI	l Pa	1:::	1::::	1::::	1::::	<u>:</u>	

■ Remoulded Vane Test, kPa△ Pocket Penetrometer Test, kPa

	Stantec MONITORING WELL RECORD BH/MW15-23 Sheet 1 of 1 N: 4 848 202 E: 595 429 BH/MW15-23													
	s	tantec ^{MO}	NI	ΓO	RI] N: 48	NG WELL RECORD 348 202 E: 595 429	BH	Sheet 1 of 1 I/MW15-23						
	LIENT _						_ PROJI	ECT No. <u>121624778</u>						
		N 12861 Dixie Road, Caledon	l				_ DATU	M NAD83						
D	ATES: E	BORING <u>02/14/2023</u>				WATER LEVEL	_ TPC E	LEVATION						
(10	딢		VAPOUR SAM	PLES							
DЕРТН (m)	ELEVATION (m)	OTDATA DECODIDATION	STRATA PLOT	WATER LEVEL	DEРТН (ft)		д Щ	WELL						
EPT	EVA (m	STRATA DESCRIPTION	₩.	띰	EPT	CONCENTRATIONS W I	N-VALUE	CONSTRUCTION						
□	🗇		STF	W	О	● %LEL ▲ ppm — —								
	267.7													
0 -	267.7	TOPSOIL	100 200 300 400 SS	1 3	N K									
- 0 -	267.3	Ciayey sint, Trace graveis	12.3		1 - 2 -		1 3							
		Brown, loose, moist	1//		3 -	SS SS	2 23							
L .		SANDY LEAN CLAY (CL) Sand seams, traces of gravel	//		4 -	33	2 23	-8 8						
2 -		Brown, Very stiff to hard, moist		_	5 -	 1 	2 26							
2 -				₹	6 -	SS	3 26							
			1/		7 - 8 -		1 20	-						
- :	265.0		//		9 -	SS	1 29	-8 8						
⊢ .		Hard to very stiff, brown, moist	//		10-		- 20	-						
-			//-		11-	SS	5 38							
					12 - 13 -									
4 -					14-									
4 -	263.1	Traces of gravel	1/2		15-									
5 -		very stiff, grey, moist	//		16-	SS	5 25							
			//		17 - 18 -									
					19-									
6 -					20-	 								
_ U -	261.2		1/2		21 -	SS	7 28							
7 -		Silty sand seams Hard, grey, moist			22 -									
_ / -		Hard, grey, moist	//-		23 - 24 -									
			1//		25-			Ĭ : <u> </u>						
8 -					26-	SS	3 50							
- :			•//		27-									
					28 - 29 -									
9 -			1/		30-	<u> </u>								
Ė :	258.1				31-	□ □ SS	50							
10		Borehole terminated at 9.6 m BGS.			32 -									
_10-		Monitoring well installed to 9.6 m BGS.			33 - 34 -									
11-					35-									
11-					36-									
<u> </u>					37-									
<u> </u>					38 - 39 -									
12 -	1			1	3)		1	i .						

LABORATORY ANALYSES:

	s	tantec	B	OF	REF N: 4	[O] 848 3	LE 37 I	RE (E: 595	COR	RD						Е	ВН	16	5-2	23		Sh	eet 1 of 1
C	LIENT _	QuadReal Properties														PR	.OJE	CT	· No).	_	12	1624778
		N 12861 Dixie Road, Caledon				XX/A7	CED I	EVEL									TUI		_				NAD83
D.	ATES: E	ORING 02/16/2023	Τ	<u> </u>		WAI		LEVEL		<u> </u>	LINIT) D /	\ INII	-D 6							Г <u>—</u> (Ра)		
(m)	N O		STRATA PLOT	WATER LEVEL	(#)		SAI	MPLES	i		OINL		50			00	J 11∖ —+		150			200	
DEРТН (m)	ELEVATION (m)	STRATA DESCRIPTION	TAF	II II	DEPTH (ft)	l	监	Y (mr	JE (%)	l w	ATER	s cc	NTE	NT &	ATTE	ı RRF	RG I	ІМІТ	rs	Wp	· W	v '	$W_{ m L}$
吕			STR	WAT	🖁	TYPE	NUMBER	VER %) / S	N-VALUE OR RQD(%)	D	/NAM	IIC C	CONE	PEN	IETRA	OIT	N TES	ST, E	BLOV		3m	▼	REMARKS & GRAIN SIZE
	267.9						Z	RECOVERY (mm) TCR(%) / SCR(%)	ΣΝ						ATION						90	100	DISTRIBUTION (%) GR SA SI C
0 -	207.9	TOPSOIL	·		0	W _{GG}	1		2		Ť					Ţ.				Ĩ	Î		GR SA SI C
-	267.5	Clayey silt, Trace gravels Brown, loose, moist	<u>/</u> '. <u>'</u> ' • '''' ,		1 -	SS	1	<u>460</u> 460	3														
-		SANDY LEAN CLAY (CL)	//		2 -																		
1 -		Silty sand seams, traces of gravel Brown, very stiff to hard, moist	//		3 -	ss	2	<u>410</u> 460	24				•										
-		·			4 -					-													
-			,		5 -		_	460	20	-												H	
2 -					6 -	SS	3	<u>460</u> 460	28				•										
-	265.6		1/2	2	7 -	<u> </u>																	
-		Hard, brown, moist			8 -	$\int SS$	4	<u>460</u> 460	33					•									
			//		9 -	\cap		100															
3 -					10-	\mathbf{M}		410		<u> </u>													
-			,		11 -	SS	5	410 460	50							•							
-			//		12 -																		
4 -			•/		13-					:::				::::									
-			//		14-																		
-	263.4	Traces of gravel, some silt seams	//	•	15-	$\downarrow \downarrow$		1.50		1:::													
5 -		Very stiff, grey, moist			16-	SS	6	<u>460</u> 460	50							•							
-			<i> </i>		17-																		
-					18-																		
-			•//		19-																		
6 -			//		20 -			440		-													
-	261.4				21 -	SS	7	$\frac{410}{460}$	50							•							
-		Borehole terminated at 6.55 m BGS			22 -																	F	
7 -					23 -																		
-					24-																		
-					25-																		
8 -					26-																		
															est, k ane		, kP:	a					
										_					omet				a				

C	s	tantec	B	OF	REH N: 48	OI 848 4	E 38 1	RE (E: 595	C OR	D				BH	[17-	23		Sh	eet 1 of 1
CI	LIENT _	QuadReal Properties												PROJI	ECT N	No.		12	1624778
	OCATIO:	· ·												DATU					NAD83
D	ATES: E	ORING 03/03/2023	<u> </u>	<u> </u>	_	WAT		LEVEL											
m)	NO		LOT	VEL	(L		SAI	MPLES	; 	'		4INED 50		AR STE		51H (F 50		200	
DЕРТН (m)	/ATI([m]	STRATA DESCRIPTION	TAP	R E	DEРТН (ft)		<u>~</u>	(mr CR(%	ш%		1	1	1	1		W	P V	N	$W_{ m L}$
DEF	ELEVATION (m)		STRATA PLOT	WATER LEVEI	H	TYPE	NUMBER	ERY)/S(ALU 3QD(RBERG I		⊢ 0WS/0	.3m	▼ [REMARKS
			0)	>		-	Ž	RECOVERY (mm) TCR(%) / SCR(%)	N-VALUE OR RQD(%)					N TEST, E				•	& GRAIN SIZE DISTRIBUTION
0 -	267.0	TOPSOIL	- <u>1,1,7,</u>		0	1				1	0 20	30	40	50 60	70	80	90	100	(%) GR SA SI CL
-		Clayey silt, Trace gravels	1/2 7/		1 -	ss	1	380 460	5	•								::-	
_	266.4	Brown, loose, moist	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		2 -													H	
-		SANDY LEAN CLAY (CL) Silty sand seams, traces of gravel			3 -	M	_	130											
1 -		Brown, hard, moist			4 -	SS	2	430 460	45				•						
					5 -														
-			,/,			ss	3	<u>460</u> 460	41				•						
2 -					6 -	ή		460						: : : : : : : : : : :					
-	264.7	Hard, brown, moist		4	7 -	 												::F	
-		Hard, brown, moist			8 -	SS	4	$\frac{460}{460}$	37				•						
-			//		9 -														
3 -			•//		10-	M		220											50 For 3" Refusal (Rock in Way)
-					11 -	SS	5	<u>230</u> 460	50					•					(rtoek iii way)
-					12 -														
4 -			,/		13-	 												:::F	
-			//		14-	†													
_	262.5		/		15-	<u> </u>													50 For 4" Refusal
-		Traces of gravel, some silt seams Hard, grey, moist			16-	SS	6	<u>360</u> 460	50					•					(Hard Augering)
5 -			//		17-	\cap													
-					18-														
-					19 -														
6 -										:::::									
-					20-	SS	7	<u>410</u> 460	48										
_	260.5	Borehole terminated at 6.55 m BGS	<u>/'/</u>	-	21-	W		460							<u> </u>				
-		Borenoic terminated at 0.33 in BOS			22 -	•													
7 -					23 -									 					
-					24 -														
-					25-													::F	
8 -					26-													<u>:::</u> F	
												l Vane ' oulded		Pa Γest, kF	'a				
														er Test					

	s	tantec	B	OF	REF N: 4	IOI 848 5	LE 26 1	RE (E: 595	C OR 783	D						В	H1	18-	-23	3	•	She	eet 1 of 1
C	LIENT _	QuadReal Properties													_	PRO	OJEC	CT 1	No.		1	21	624778
		N 12861 Dixie Road, Caledon															TUM		_				NAD83
D.	ATES: E	ORING 02/28/2023	T.	Ι.		WAI		LEVEL									C EL STRE						
(E)	N O		STRATA PLOT	WATER LEVEL	(#)		SAI	MPLES	•	L		5		_		00			50	- (IXI		00	
DEРТН (m)	ELEVATION (m)	STRATA DESCRIPTION	ATA F	ERL	DEPTH (ft)	l	씶	Y (mr	UE)(%)	l w	ATER	CON	ITEN	Т&А	ATTEI	' RBEF	RG LIN	мітѕ		W _P	W	'	<i>W</i> _L ⊣
	EE		STR	WAT	🛎	TYPE	NUMBER	VER %)/8	N-VALUE OR RQD(%)								I TES				m T	7	REMARKS & GRAIN SIZE
	266.7						Z	RECOVERY (mm) TCR(%) / SCR(%)	NO		'AND/						60 60				0 1	00.	DISTRIBUTION (%) GR SA SI C
0 -	200.7	TOPSOIL	3/1/		0	ss	1		3													F	GR SA SI CI
-	266.1	Clayey silt, Trace gravels Brown, loose, moist	7. 7.	1	1 -	133	1	460 460	<i></i>													L	
-	200.1	SANDY LEAN CLAY (CL)	1		2 -	<u> </u>																E	
1 -		Silty sand seams, traces of gravel Brown, hard, moist			3 -	ss	2	<u>360</u> 460	29				•									H	
-			//		4 -																	H	
-					5 -		3	76	20	1												+ 1	Rock in the way of auger
2 -					6 -	SS	3	<u>76</u> 460	30													Ė	
-	264.5		1		7 -																	Ħ	
-		Hard, brown, moist	//		8 -	ss	4	<u>460</u> 460	39					•								H	
					9 -																	Ħ	
3 -					10-		_	460	20													Ħ	
-					11 -	SS	5	<u>460</u> 460	38													Ħ	6 27 34 33
-			/,		12 -																	Ħ	
4 -			1		13 -																	Ħ	
-					14-																	F	
-	262.2	Traces of gravel, some silt seams	1/		15-	\mathbb{H}		460														Ħ	
5 -		Hard, grey, moist			16-	SS	6	<u>460</u> 460	46						•		<u> </u>					Ħ	
-			·/		17-																	Ħ	
-					18-	$\ \cdot\ $																Ħ	
-					19-																	Ħ	
6 -					20-	\int		460														Ħ	
-	260.2		<i>'</i>		21 -	SS	7	460 460	50													E	
-		Borehole terminated at 6.55 m BGS			22 -																	F	
7 -					23 -	1																Ħ	
-					24-																	F	
-					25-																	F	
8 -					26-																	F	
															st, kl ane T		kPa						
																	est, k						

(S	tantec	RE (E: 595	C O R	D					Bl	H/1	ΜV	V19)-23	heet 1 of 1					
C	LIENT _	QuadReal Properties													PRO	JEC'	Γ Να).	13	21624778
		N 12861 Dixie Road, Caledon													DAT					NAD83
D.	ATES: E	ORING <u>02/28/2023</u>				WAT	ER I	LEVEL							TPC	ELE	VAT	ION		
			T	닒			SAI	MPLES	1	ι	JND	RAIN	IED S			TRE				
ОЕРТН (m)	ELEVATION (m)		STRATA PLOT	LEVEL	Œ			Î.			-	$\stackrel{50}{-+}$		1	00	+	150	+	20	00
РТН	(m)	STRATA DESCRIPTION	ΑTΑ	H	DEРТН (ft)		监	Y CR(m	JE)(%)	WA	TER	CONT	ENT &	ATTE	RBER	G LIM	ITS	W_P	W	$W_{\rm L}$
DE			ITR/	WATER	🖁	TYPE	NUMBER	/ER (6) / S	VALI RQE				IE PEN					VS/0.3	m ▼	REMARKS &
			J 0,	>			≥	RECOVERY (mm) TCR(%) / SCR(%)	N-VALUE OR RQD(%)	STA	ANDA		ENETR						•	GRAIN SIZE DISTRIBUTION
0 -	267.7	TORGOH	¥/., ⁷ .		0					1	10 T:::	20	30 4	10 5	50 <i>6</i>	50 <i>′</i>	70 8	30 9	00 10	OGR SA SI CL
-	267.3	TOPSOIL Clayey silt, Trace gravels	1/ 1		1 -	SS	1	330 460	7	•										
-		Brown, loose, moist	V•/		2 -				_											
1 -		LEAN CLAY WITH SAND TO			3 -	SS	2	460 460	33				•							<u>-</u>
=		SANDY LEAN CLAY (CL) Silty sand seams, traces of gravel	1	,	5 -															=
]		Brown, hard, moist			6 -	∦ss	3	<u>460</u> 460	37				•							
2 -			•/>		7 -															-
_	265.0			1	8 -	∬ss	4	$\frac{460}{460}$	47					•						-
3 -		Hard, brown, moist	1		9 -						1:::						1::::			=
=					11-	∦ss	5	$\frac{460}{460}$	50		-	1			•					Hard Augering 5 22 36 37
-	263.8		1.		12 -															-
4 -	_ 203.8	Hard, grey, wet	1,	₹	13-	1														-
=			1/	1	14- 15-															=
<u>-</u> ا			//		16-	SS	6	<u>460</u> 460	50						•					=
5 -					17-			700												-
=					18-															-
6 -					19-	 														-
-			//	•	20 - 21 -	ss	7	460	50						•					
-					22 -			460												
7 -					23 -	$\ \cdot\ $::::	1:::						1::::			=
-					24-															-
					25- 26-	SS	8	<u>250</u> 460	50						•					
8 -					27 -	H		460		 							<u> </u>			
	259.2	Traces of gravel	//		28-															-
9 -		Hard, grey, wet	//		29-	1														-
-	250.1		/		30-	SS	9	<u>460</u> 460	50						•					=
-	258.1	Borehole terminated at 9.60m BGS	<u> </u>	<u> </u>	32 -			460												
10-		Monitoring well installed to 9.6 m			33 -															=
		BGS.			34-	 														=
					35-	†														
11-					36- 37-]														
-					38-															<u>- </u>
12-					39-															-
													ane T			.D.				
											K	moul	ded V	ane	ı est, l	кrа				

△ Pocket Penetrometer Test, kPa

C	s	tantec MO	NI	ΓO	RI N: 48	N 84	G 8 55:	W. 5 E	El	L I 595	.] 66	RF 2	EC	CO	R	D)		BH	[/MV	V19	Sheet 1 -23	of 1
LO	OCATIO	QuadReal Properties N12861 Dixie Road, Caledon																	DATU			121624 NA	D83
D.	ATES: E	ORING <u>02/28/2023</u>					VATI	ER L	EV	EL	_					_				LEVAT	ION _		
<u></u>	z		10.	Æ	t)				V	ΑP	ΩIJ	R				L	SA	MPL	.ES				
DEРТН (m)	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEРТН (ft)		•	CON %LE	NCE EL	ΞΝΊ	R/	ATIO	pp	m			TYPE	NUMBER	N-VALUE			WELL TRUCTIO	N
L 0 -	267.7				0		2 10	0 00	40 20		60 30) ()	80 40	0									
0 -	267.3	TOPSOIL Clayey silt, Trace gravels Brown, loose, moist	1/2 1		1 - 2 -											=X	SS	1	7				
		LEAN CLAY WITH SAND TO SANDY LEAN CLAY (CL)			3 - 4 -	1											SS	2	33				
3		Silty sand seams, traces of gravel Brown, hard, moist			5 - 6 - 7 -												SS	3	37				
 	265.0	Hard, brown, moist	//		8 - 9 -	-									-		SS	4	47				
- 3 - 		22	1/2		10 - 11 - 12 -	-										N N	SS	5	50				
4 -	263.8		1/	Ţ	13-	- 1 :										-							
		Hard, grey, wet			14 - 15 -	- I -																	
5 -					16-	-										\mathbb{X}	SS	6	50				
 					17 - 18 -	٠.										-							
6 -					19 - 20 -	- 1 :										-							
					21 - 22 -	-										$\frac{1}{2}$	SS	7	50		•		
7 -					23 -	+										-					•		
 					24 - 25 -	- 1 :									-	- - - - - -					•		
8 -			,		26 - 27 -		:::									A	SS	8	50	∤∄			
8 -	259.2	Traces of gravel	1//	•	28-	-										-							
9 =		Hard, grey, wet			29 - 30 -	\vdash										-					•		
-	258.1		//		31 -	-										\mathbb{X}	SS	9	50				
10-		Borehole terminated at 9.60m BGS Monitoring well installed to 9.6 m			32 - 33 -											1							
- - - -		BGS.			34-	-																	
11-			35- 36-	1																			
					37-	_ I ·										-							
12-					38 - 39 -											-							
14	LABOF	ATORY ANALYSES:																					

C	s	tantec	B	OR	REF N: 4	IOI 848 5	LE 09 1	RE (E: 595	C OR	D						ΒI	H2	0-2	23		Sh	eet 1 of 1
Cl	LIENT _	QuadReal Properties													F	PRO	JEC'	T No	0.	_	12	<u>1624778</u>
		N 12861 Dixie Road, Caledon															TUM					NAD83
D.	ATES: E	BORING 02/28/2023	<u> </u>			WAT		LEVEL	-													
(m.	N C		LOT	SVEL	(#)		SAI	MPLES ା ଚ୍ଚ	i	'	י	RAIN 50		,	100		IKE	15(200)
DЕРТН (m)	VATI(m)	STRATA DESCRIPTION	TAP	IR LE	DEPTH (ft)		<u>این</u>	(m) CR(%	JE (%)	10/0	TED	CONT	_N.T.		ren.	2500	C L IN 4	UTC.	W	P V	V	$W_{ m L}$
DEF	ELEVATION (m)		STRATA PLOT	WATER LEVEL		TYPE	NUMBER	/ER/	N-VALUE OR RQD(%)			CON 1							WS/0.	.3m	▼	REMARKS &
			0,	>		-	Z	RECOVERY (mm) TCR(%) / SCR(%)	A S S			RD PE									•	& GRAIN SIZE DISTRIBUTION
0 -	268.0	TOPSOIL	· · · · ·		0	M					10 :	20	30 	40	50	6	0	70 	80	90	100	(%) GR SA SI C
-		Clayey silt, Trace gravels	1/2 31	1	1 -	SS	1	300 460	7													
-	267.4	Brown, loose, moist SANDY LEAN CLAY (CL)	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	•	2 -																	
1 -		Silty sand seams, traces of gravel	•/		3 -	SS	2	<u>460</u> 460	31													
-		Brown, hard, moist	/,/		4 -		_	460														
_			1/		5 -	.															-	
-					6 -	ss	3	<u>460</u> 460	36				•									
2 -	265.9				7 -													1			 	
-	265.8	Hard, brown, moist	1/		8 -			460	40												:: F	
-					9 -	SS	4	<u>460</u> 460	40												F	
3 -			/-/	•	10-																## ##	
-					11 -	$\int \int S$	5	$\frac{460}{460}$	50						•							10 28 37 25
-			9/		12 -	H		400														
-			//	1																		
4 -			//		13-													1			Ħ	
-	263.5				14-																	
-	203.3	Traces of gravel, some silt seams	1		15-	ss	6	300 460	50													50 For 4" Refusa
5 -		Hard, grey, moist			16-		_	460							T			:::	<u> </u>			
-					17-	<u> </u>															<u> </u>	
-					18-	 																
-					19-	1																
6 -					20 -	W	_	360										T			-	50 For 4" Refusal
_	261.5		1.7		21 -	SS	7	<u>360</u> 460	50													
-		Borehole terminated at 6.55 m BGS			22 -																	
7 -					23 -													1				
-					24-																	
-					25-																	
8 -					26-																	
												eld Va moul					γ P o					
												cket						Pa				

	s	tantec	B	OR	REH	[O] 848 3	[E 63]	RE (E: 595	OR 438	D						В	H.	21	-2	23		Sh	eet 1 of 1
C	LIENT _	QuadReal Properties													_	PRO	OJE	.CT	No).	_	12	1624778
		N 12861 Dixie Road, Caledon				****	EED I	LEXTEL								DA			_				NAD83
D	ATES: E	ORING 02/16/2023	<u> </u>	<u> </u>		WAI		LEVEL	-												 :Pa)		
(m)	NO NO		LOT	=VEL	(#)		SA	MPLES	•	L'		5(00) I I \		150			200	
DEРТН (m)	ELEVATION (m)	STRATA DESCRIPTION	TAF	IN LE	DEPTH (ft)		监	CR(%	щ(%)	١٨/	TED	CON	ITEN!	т г . /	\TTE	DREE	ا ءو	INAIT	· C	Wp	, M	V	$W_{ m L}$
DEF			STRATA PLOT	WATER LEVEL	B	TYPE	NUMBER	VER) (%)	N-VALUE OR RQD(%)			IC CC								VS/0.	3m	▼ [REMARKS &
	260.5		"			'	ž	RECOVERY (mm) TCR(%) / SCR(%)	주 유			ARD F									00	100	& GRAIN SIZE DISTRIBUTION (%)
0 -	269.5	TOPSOIL	111/		0			~⊢			10	20	30	- 41		,0 	60			SU 	90 :::	100 E	(%) GR SA SI C
-	268.9	Clayey silt, Trace gravels \Brown, loose, moist	1/2 1/2	1	1 - 2 -	!																	
1 -		SANDY LEAN CLAY (CL)			3 -	SS	1	<u>360</u> 460	21														
_		Silty sand seams, traces of gravel	//		4 - 5 -			400															
2		Brown, very stiff, moist			6 -	\sqrt{ss}	2	<u>460</u> 460	22			•											
2 -	267.2	Hard, brown, moist		•	7 -			460		-													
		riard, brown, moist	./		8 - 9 -	SS	3	<u>460</u> 460	37	-				•									
3 -			//		10-	ss	4	460 460	33	<u> </u>													
-					11 - 12 -		_	460	33														
4 -			,/,		13-																		
	264.9				14- 15-																		
5		Traces of gravel, some silt seams Hard, grey, moist			16-	\sqrt{ss}	5	<u>460</u> 460	42						•							: : E : : E	
		Tidid, grey, moist	1/2		17-																		
=					18- 19-]																	
6 -					20 -	M cc	6	460	50						· · · · · · · ·							E	5 20 25 20
-					21 - 22 -	SS	6	460	50			1											5 38 35 22
7 -					23 -																		
					24 - 25 -																		
8 -					26-	ss	7	<u>460</u> 460	50														50 For 3" Refusal
					27-																		
			//		28 - 29 -]																	
9 -			,		30-	M cc	8	360	50	-													50 For 2" Refusal
	259.9	Borehole terminated at 9.6 m BGS	1/	_	31 -	SS	8	<u>360</u> 460	30														
10-					33 -																	:	
-					34 - 35 -																		
11-					36-																		
					37-																		
10					38 - 39 -																		
12-			1					1	1			eld V							••••	1			
												emou ocket							1				

C	S	tantec	В	OR	REF N: 4	IOI 848 2		RE (E: 595	OR	D						В	Н2	2-2	23		5	Sheet 1 of 1
LO		N 12861 Dixie Road, Caledon														PRC DAT			0.	-	1	21624778 NAD83
D	ATES: E	BORING <u>02/15/2023</u>			_	WAT	ER I	LEVEL														
DEРТН (m)	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEPTH (ft)			(mm) CR(%)			-	5	0	+	10	AR S	-	15	0	(kP <i>N</i> _P	20	00 W _L
DEF			STRA	WATE	DEF	TYPE	NUMBER	RECOVERY (mm) TCR(%) / SCR(%)	N-VALUE OR RQD(%)	DY ST	nam And	IIC CC	ONE I	PENI ETRA	ETRA ATION	RBER TION I TES	TEST Γ, BLC	, BLC).3m	ı	•	REMARKS & GRAIN SIZE DISTRIBUTION (%)
0 -	268.2	TOPSOIL	11/4		0	M					10 	20	30	4		0 6	50 	/0 	80	90) 10	GR SA SI CL
-	267.5	Clayey silt, Trace gravels Brown, loose, moist	7.7.		1 - 2 -	SS	1	<u>460</u> 460	4	•												- - - - -
1 -		SANDY LEAN CLAY (CL) Silty sand seams, traces of gravel Brown, very stiff, moist			3 -	ss	2	380 460	24			•)									- - - - - - - -
.					5 - 6 -	ss	3	460 460	31				•									- - - -
2 -	265.9	Hard, brown, moist	/•/	•	7 - 8 -			260														- - - - -
-					9 -	SS	4	360 460	48)						- - - - -
3 -					10-	SS	5	<u>460</u> 460	47						•							7 40 17 36
4 -					12-	 																- - - - -
-	263.6				14- 15-																	Hard Augering
5 -		Traces of gravel, some silt seams Hard, grey, moist			16 - 17 -	SS	6	<u>360</u> 460	47						•							- - - -
					18-																	-
6 -					19 -	<u> </u>	_	300														- - - - -
	261.6	Borehole terminated at 6.55 m BGS	<u>/-/-</u>		21 -	SS	7	300 460	50													-
7 -					23 -																	
					25-																	- - -
8 -			<u> </u>		26-	<u>† </u>		<u> </u>			R	emoi	ulde	d V		Pa Fest, E er Te		Pa			<u>::::</u>	

	s	tantec	В	OF	REH N: 48	[O] 848 1	E 88 1	RE(E: 595	COR	D							В	H2	23	-2	3		Sh	eet 1 of 1
	LIENT _															_	PRO	OJEO	СТ	No		_	12	1624778
		N <u>12861 Dixie Road, Caledon</u> BORING <u>02/15/2023</u>				WAT	ER I	LEVEL										TUN		_ ^^ T	ION	,		NAD83
D.		ORING <u>02/13/2023</u>	 -					MPLES	-		UN	IDF	RAII	NE	D S			STRE						
(m)	NOL		PLO	LEVE	(H)					\vdash		 	50)	-	1	00	-	1	150		 	200)
ОЕРТН (m)	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEPTH (ft)	Щ	HE HE	₹ SCR	LUE D(%)	W	/ATE	ER C	ON	TEN	Т&,	ATTE	RBEF	RG LI	MITS	S	W _F	· /	W >	<i>W</i> _L
О	ᆸ		STE	WA		TYPE	NUMBER	RECOVERY (mm) TCR(%) / SCR(%)	N-VALUE OR RQD(%)									TES T, BL				3m	•	REMARKS & GRAIN SIZE
0 -	268.5		1		0			AEG TGF	0													90	100	DISTRIBUTION (%) GR SA SI CL
-		TOPSOIL Clayey silt, Trace gravels	1/2 × 7/			ss		460	5															
-		Brown, loose, moist	1, 1		1 -	22	1	460 460	3															
_	267.9		717		2 -																			
-		SANDY LEAN CLAY (CL) Silty sand seams, traces of gravel	//																					
- 1 -		Brown, very stiff, moist			3 -	ss	2	410 460	23														-	
-								460	23															
_			,,		4 -																			
_	266.9	Brown, very stiff to hard, moist	//		5 -				_	-													-	
_		Brown, very still to hard, moist				ss	3	<u>460</u> 460	27															
-			//		6 -	\setminus		460																
2 -					7 -																			
-			•							-														
_					8 -	SS	4	<u>460</u> 460	36						•									
-			/-/		9 -			400																
-																								
3 -					10-				_	-														
-			//		11 -	ss	5	<u>460</u> 460	41															
-	265.0		1/2	_	11-																			
-		Borehole terminated at 3.55 m BGS			12 -																			
-																								
4 -					13-	+																		
-					14-	<u> </u>																		
-																								
-					15-																			
-					16-																			
5 -					<u> </u>						:1:]	Fiel	ld V	/and	e Te	st, k	∐ Pa		ΞĒ		<u>Liii</u>	:111		
											3	Ren	nou	lde	d V	ane [Γest,	kPa est, k						
										1 4	_	1 00	vcr	1 0	ucu	OHIC	1	voi, F	A a					

C	s	tantec	BOREHOLE RECORD N: 4 848 274 E: 595 210													В	H2	4-2	23		Sheet 1 of 1			
•														1624778										
		N 12861 Dixie Road, Caledon															ΓUM		NAD83					
D.	ATES: E	ORING 02/15/2023				WAI		LEVEL		1							TRE							
(m)	N O		LOT	SVEL	(#)		SAI	MPLES ା ∂୍ତ	i	┨ '	טווט	5(, SI)0	,	15		,KFa	200)		
DЕРТН (m)	/ATI(m)	STRATA DESCRIPTION	TAP	R.LE	DEРТН (ft)		l K	(m) CR(%	JE (%)	,,,		001		- 0 4				UTO	V	V _P	W	$W_{\rm L}$		
DEF	ELEVATION (m)		STRATA PLOT	WATER LEVEL	BE	TYPE	NUMBER	RECOVERY (mm) TCR(%) / SCR(%)	N-VALUE OR RQD(%)								G LIM		t)/SWS	0.3m	▼	REMARKS		
			0)	>		-	2	CS. (%)	N-V OR I								T, BLC				•	& GRAIN SIZE DISTRIBUTION		
0 -	268.1	TOPSOIL	×1.1/4.		0			₩ <u></u>			10	20	30	40	5	0	60 	70 	80	90	100	GR SA SI C		
-	267.8	Clayey silt, Trace gravels	<u>, , , , , , , , , , , , , , , , , , , </u>		1 -	 -																		
-		Brown, loose, moist	//		2 -																	-		
-		SANDY LEAN CLAY (CL) Silty sand seams, traces of gravel	//			\vdash				-														
1 -		Brown, very stiff to hard, moist	1//	•	3 -	SS	1	360 460	22			•										-		
-					4 -	/ \ 		100		-														
-	266.6		<u> </u>		5 -	<u> </u>																-		
-		Hard, brown, moist	//		6 -	ss	2	<u>410</u> 460	36					•										
2 -			1/9			ή		400		::::										:: :	##	-		
-			//	1	7 -	<u> </u>			_															
-					8 -	SS	3	<u>460</u> 460	41) 							-		
-			1/		9 -	Λ		460		-														
3 -				}	10-																##	-		
-				}		$\ _{SS}$	4	<u>460</u> 460	50															
_					11 -	1	Ļ	460														-		
-			1		12 -																			
4 -			1/	•	13-	 				:::					:::::							-		
_			/,		14-																			
-			·/·																			-		
-	263.3		/,/	1	15-	SS	5	410	50													Hard Augering		
5 -	203.3	Traces of gravel, some silt seams	1,7		16-	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		<u>410</u> 460	30													-		
-		Hard, grey, moist			17-																			
-			//		18-	 -															:::E			
-			1		19-																			
6 -			//,																		<u> </u>			
-			1/9		20-	W		410														50 For 1" (Hard ground)		
-	261.6		//		21 -	SS	6	410 460	50)								
-		Borehole terminated at 6.55 m BGS			22 -																			
7 -					23 -																<u> </u>	_		
-																								
-					24 -																	_		
-					25-																			
8 -					26-													1:::			<u>iiif</u>			
												eld V emou					₽D∽							
																	kra est, k	Pa						

	S	tantec	BOREHOLE RECORD N: 4 848 400 E: 595 083											Sheet 1 of 1 BH/MW25-23									
Cl	LIENT _	QuadReal Properties										_	PRO	21624778									
		N 12861 Dixie Road, Caledon													DAT					NAD83			
D.	ATES: E	BORING <u>02/15/2023</u>				WAT	ER I	LEVEL						_	TPC ELEVATION								
	_		F	닒			SAI	MPLES	;	Ĺ	JNDF	RAIN	ED S			TRE							
(m)	NO!		PLC	LEVEL	(L			Ê%			-	50	-	10	00	+	150	+	2	00			
ОЕРТН (m)	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	ERL	DEРТН (ft)		띪	RECOVERY (mm) TCR(%) / SCR(%)	-VALUE RQD(%)	WA	TER (CONTE	ENT & /	ATTER	RBERG	G LIMI	TS	W_P	W	$W_{\rm L}$			
DE			STR	WATER	🛎	TYPE	NUMBER	VER 6)/8	VALI				E PEN					VS/0.3	m	REMARKS &			
			0,	>	_	_	ź	SS (%)	^N N	STA	ANDA	RD PE	NETRA	ATION	TEST	, BLO	WS/0.	3m	•	GRAIN SIZE DISTRIBUTION			
0 -	269.9				0					::::	0 2	20 3	30 4	0 5	0 6	0 7	70 8	30 9	00 1	00 GR SA SI CL			
-	269.5	TOPSOIL Clayey silt, Trace gravels	1/2 × 1		1 -	SS	1	<u>460</u> 460	6	•										<u>F</u>			
-		Brown, loose, moist	W),		2 -	<u> </u>			_														
1 -		SANDY LEAN CLAY (CL)		1	3 -	SS	2	360 460	26			•											
-		Sand seams, traces of gravel Brown, Very stiff hard, moist	1/-	·	5 -	<u> </u>														Ħ			
2		Brown, very still hard, moist			6 -	SS	3	<u>460</u> 460	36				•										
2 -			•/>		7 -															Ī			
	267.2				8 -	∬ss	4	<u>460</u> 460	50														
3 -		Hard, brown, moist			10-	\prod												<u> </u>		<u> </u>			
-					11-	∬ss	5	460 460	50											ŧ			
-			1/-		12-	П																	
4 -					13-																		
-			,/,		14- 15-	\coprod																	
5 -	265.1		1/			∬ss	6	$\frac{460}{460}$	50											Hard Augering			
3 -		Traces to some of gravel Hard, grey, moist	//		17-															F			
_		7.5 \$7	//	₹	18-	1														H			
6 -			1/		19 - 20 -							1::::		:::::			: : : :	<u> </u>		<u> </u>			
=	263.4				21 -	∬ss	7	<u>360</u> 460	50						.					50 For 3" Refusal, Bad Rock			
=		Borehole terminated at 6.5 m BGS			22 -															F			
7 -		due to Auger Refusal Monitoring well installed to 6.5 m			23 -	1											1	1		F			
-		BGS			24 - 25 -]																	
8 -					26-	<u> </u>														<u>E</u>			
					27-	<u> </u>														E			
-					28-															F			
9 -					29 - 30 -]														<u>F </u>			
-					31-]																	
-					32 -															E			
10-					33 -	1														F			
=					34-	†																	
11-					35- 36-															E			
-					37-	 														E			
=					38-	1				l::::										Ħ			
12-					39-	1						13.77	<u> </u>	· · · ·		L	1::::	<u> </u>		<u>Fl</u>			
										ıυ	rie	au Va	ine Te	st, kl	a								

■ Remoulded Vane Test, kPa△ Pocket Penetrometer Test, kPa

		tantec ^{MO}	NI'	ГО	RI	NG WELL RECORD 448 400 E: 595 083	Sheet 1 of 1 BH/MW25-23					
	LIENT _					48 400 E: 595 083	PROJECT No. 121624778					
L	OCATIO	•					DATUM NAD83					
D.		ORING <u>02/13/2023</u>	 			WATER LEVELSAMPL	TPC ELEVATION					
DEPTH (m)	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEPTH (ft)	VAPOUR CONCENTRATIONS ● %LEL	WELL ONSTRUCTION					
- 0 -	269.9 269.5	Clayer sint, Trace Stavels	1/. 1/		0 1 -	● 20 40 60 80 ▲ 100 200 300 400 SS 1	6					
1 -		Brown, loose, moist SANDY LEAN CLAY (CL) Sand seams, traces of gravel			2 - 3 - 4 -	SS 2	26					
2		Brown, Very stiff hard, moist			5 - 6 - 7 -	SS 3	36					
3 -	267.2	Hard, brown, moist	1		8 - 9 -	SS 4	50					
					10 - 11 - 12 -	SS 5	50					
4 -	265.1				13 - 14 - 15 -							
5	265.1	Traces to some of gravel Hard, grey, moist		_	16- 17- 18-	SS 6	50					
6 -	263.4				19 - 20 - 21 -	SS 7	50					
- 7 -	203.4	Borehole terminated at 6.5 m BGS due to Auger Refusal Monitoring well installed to 6.5 m			22 - 23 -							
8 -		BGS			24 - 25 - 26 -							
					27 - 28 - 29 -							
- 9 - - - -					30 - 31 - 32 -							
10-					33 - 34 -							
-11-					35- 36- 37-							
12-	LABOR	ATORY ANALYSES:			38 - 39 -							

C	S	tantec	BOREHOLE RECORD N: 4 848 421 E: 595 194												Bl	H2	6-2	Sheet 1 of 1					
CI	LIENT _	QuadReal Properties												_	PRO	JEC	T No).	12	21624778			
	OCATIO:	· ·													DAT					NAD83			
D	ATES: E	BORING 02/16/2023				WAT		LEVEL		<u> </u>						TPC ELEVATIONR STRENGTH (kPa)							
n)	Z		lo'	VEL	(ft)		SAI	MPLES	:	U	INDF	RAIN 50	ED S		\R S ⁻ 00	TRE	NGT 150		Pa) 20	0			
TH (r	ATIC m)	STRATA DESCRIPTION	Ι	3 LE	H		~	(mm)R(%	(% ==		+-		-			+	+	W _P	W	$W_{ m L}$			
DЕРТН (m)	ELEVATION (m)		STRATA PLOT	WATER LEVEI	ОЕРТН (TYPE	NUMBER	RECOVERY (mm) TCR(%) / SCR(%)	-VALUE RQD(%)				ENT & /					<u>-</u> د ۱۱۵۱۸	— →	REMARKS			
	ш		S	>		-	Ž	R(%)	N-V OR R				NETR/						•	& GRAIN SIZE DISTRIBUTION			
0 -	269.1		1)	1	0 2	20 3	30 4	0 5	0 6	50 ′	70 8	30 9	90 10	(0/)			
-	260.5	TOPSOIL Clayey silt, Trace gravels	7. 7.		1 -	SS	1	<u>460</u> 460	3	•													
-	268.5	Brown, loose, moist	//	•	2 -			460															
1 -		SANDY LEAN CLAY (CL) Silty sand seams, traces of gravel			3 -	SS	2	<u>460</u> 460	28			•								<u> </u>			
-	267.6	Brown, very stiff, moist			5 -			460												: <u> </u> -			
2 -		Hard, grey, moist			6 -	SS	3	<u>460</u> 460	34				•				: : : :	ļ::::: 		: -			
]			//		7 - 8 -	SS	4	460	40											6 21 36 37			
_					9 -	NSS	4	460	40											0 21 30 37			
3 -					10 - 11 -	ss	5	100 460	50											50 For 2" Refusal			
-					12 -	\cap		460															
4 =					13-													1::::		<u>. </u> .			
-	264.5		<u>//</u>		14- 15-																		
5 -		Traces of gravel, some silt seams Hard, grey, moist	//		16-	ss	6	330 460	50					•						Hard Augering			
3		riard, grey, moist	//	1	17-																		
-				1	18- 19-																		
6 -					20-	<u> </u>		250	_											50 For 3" Refusal			
-						SS	7	<u>250</u> 460	50											:			
7 -					22 -]												ļ		<u>. </u>			
-			/-/		24 -																		
			//		25 - 26 -	SS	8	<u>460</u> 460	50											50 For 5" Refusal			
8 -			/-/	•	27 -			460															
-			/,/		28-															·			
9 -					29 - 30 -													: : : : : : : : : : : : : : : : : : :		:			
	259.5		/,		31 -	ss	9	<u>410</u> 460	50											50 For 4" Refusal			
10-		Borehole terminated at 9.6 m BGS			32 -																		
10					33 - 34 -]																	
-					35-	 																	
11-					36-	 											1::::			<u>- </u> -			
-					37 - 38 -]														:			
12-					39 -													<u> </u>					
													ne Te led V			_ζ P ₂							
													enetr				Pa						

C	s	tantec	В	OR	REH N: 48	OI 848 5	E 15 I	RE(E: 595	COR	RD)			BH27-23									Sheet 1 of 1		
LO		QuadReal Properties N12861 Dixie Road, Caledon ORING 02/27/2023														_	DA	ΓUN	1	No. <u>121624778</u> NAD83					
DEPTH (m)	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DЕРТН (ft)	TYPE	NUMBER	RECOVERY (mm) TO TCR(%) / SCR(%)	-VALUE RQD(%)	- V	VAT	ER	50 + CON) TEN	Т&7	HEA 1	AR S	TRI	EN	GTI 150 +	H (kl	Pa) 2 W	00	<i>W</i> L −I REMARKS	
0 -	269.6			5	0	_	N N	RECOV TCR(%	OR F	8							TES					90 1	00	& GRAIN SIZE DISTRIBUTION (%) GR SA SI CL	
- - -	269.2		\(\frac{1}{2}\), \(\frac{1}\), \(\frac{1}{2}\), \(\frac{1}\), \(\frac{1}{2		1 -	SS	1	<u>200</u> 460	3	•															
-		SANDY LEAN CLAY (CL) Silty sand seams, traces of gravel Brown, very stiff to hard, moist			2 -																				
1 -					4 -	SS	2	410 460	37						•										
- - -	268.1	Hard, grey, moist			5 -	ss	3	460 460	42							•									
2 -					7 -			400															-		
- - -					8 -	ss	4	300 460	50								•						+ 1	50 For 5" Refusal (Hard ground)	
3 -					9 -																		-	50 For 4" Refusal	
-	266.1				11 -	SS	5	280 460	50								•								
- - -		Borehole terminated at 3.55 m BGS			12-																				
4 -					13-																		-		
- - -					15-																				
5 -					16-											st, k	Pa Γest,	kP°							
											Δ						er T			<u> </u>					

C	s	tantec	BOREHOLE RECORD N: 4 848 401 E: 595 329													В	H2	Sheet 1 of 1					
CLIENT QuadReal Properties LOCATION 12861 Dixie Road, Caledon																	DJEC TUM		o.	-	12	21624778 NAD83	
		ORING 02/16/2023						LEVEL											TIO	N _			
	7		TO	П			SAI	MPLES		ι	JND			D S			TRE			(kP	a) 20	0	
DЕРТН (m)	ELEVATION (m)	OTDATA DECODIDATION	STRATA PLOT	WATER LEVEL	DEРТН (ft)			mm) {(%)	(0		-	50 100 150 200 WP W WL											
EPT	.EVA (π	STRATA DESCRIPTION	RAT/	TER	EPT	出	BER	RY (-VALUE RQD(%)								RG LIM		ŀ	<u> </u>	-	REMARKS	
	□		ST	×		TYPE	NUMBER	RECOVERY (mm) TCR(%) / SCR(%)	N-VA OR RC								TEST T, BLO				1 ▼	& GRAIN SIZE	
0 -	269.5				0			REC	0) 10	DISTRIBUTION 0 (%) GR SA SI C	
-	269.2	TOPSOIL Clayey silt, Trace gravels	1/ 1/ 			SS	1	<u>460</u> 460	3	•													
-		Brown, loose, moist	1		1 -	Ν		460		- : : : :													
-		SANDY LEAN CLAY (CL)			2 -	ļ																	
1 -		Silty sand seams, traces of gravel Brown, very stiff to hard, moist	/•/		3 -	ss	2	<u>460</u> 460	21			•											
-		·			4 -					- :::::													
_	267.9	Hard, brown, moist	1.7	•	5 -	-		1.50														_	
-		,	./		6 -	SS	3	$\frac{460}{460}$	27				•										
2 -					7 -																		
-					8 -		1	460	20														
-					9 -	SS	4	<u>460</u> 460	29														
3 -																							
-					10-	SS	5	<u>460</u> 460	43						•								
-					11 -	Λ	_	460		-												_	
-			//		12 -	•																	
4 -					13-						: : : : : :												
-			//		14-																		
-			//		15-	 																-	
	264.6	Traces of gravel, some silt seams	1		16-	SS	6	330 460	50														
5 -		Hard, grey, moist	//		17-																		
-			//		18-																		
-					19-																		
6 -			,/,																				
-					20-	SS	7	<u>410</u> 460	50														
-	262.9	Borehole terminated at 6.55 m BGS	//	_	21-	N^{2}	,	460															
-		Dorenote terminated at 0.55 m BGS			22 -																		
7 -					23 -																	1	
-					24-																		
-					25-																	1	
8 -					26-																		
															est, k ane		l∕D^						
																	кра est, k	Pa					

C	s	tantec	В	OF	REH N: 4	IOI 848 5	JE 37 I	RE (E: 595	COR	D						B	H2	.9-2	23		Sh	eet 1 of 1
L		N 12861 Dixie Road, Caledon													_	PRO DAT	TUM	[_		1624778 NAD83
D.	ATES: E	ORING 02/27/2023				WAI		MPLES				DRA										
DEPTH (m)	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEPTH (ft)	TYPE	NUMBER	RECOVERY (mm) TCR(%) / SCR(%)	N-VALUE OR RQD(%)	W.	ATE		O 	IT & A	1(ATTER	00 	G LIM	150 HITS T, BLC	W _I		2000 W •	W _L →I REMARKS & GRAIN SIZE DISTRIBUTION
0 -	270.3	TORON	3/1/4.		0			#2 F			10	20	30	40	0 5	0 6	50	70 : :::	80	90	100	(0/)
-	270.0	Brown, loose, moist	1, <u>1</u>		1 -	ss	1	<u>300</u> 460	3	•												
1 -		SANDY LEAN CLAY (CL) Silty sand seams, traces of gravel Brown, very stiff to hard, moist			3 -	SS	2	<u>460</u> 460	22			•										
-	268.8	Hard, brown, moist	•/•		5 - 6 -	ss	3	180 460	36					•								
2 -					7 -	W _{SS}	4	460	50													
3 -					9 -	85	4	460 460	30													
-					11-	ss	5	460 460	50													
4 -					13-																	
-	265.5				15-	SS	6	<u>460</u> 460	50	-												50 For 5" (Hard Augering)
5 -		Traces of gravel, some silt seams Very stiff, grey, moist			16-	/\		460														
6 -					18-																	
- - -	263.8				20 -	SS	7	<u>410</u> 460	50							•						50 For 5" Refusal
7 -		Borehole terminated at 6.55 m BGS			22 -																	
- - - -					24 - 25 -																	
8 -					26-																	
											1	Field Remo Pocke	ulde	d Va	ane T	est, l		Pa				

	s	tantec	OR	REH N: 48	[OI 848 6	E	RE (E: 595	COR	ZD)						В	H3	30	-2	3	;	She	et 1 of 1	
	LIENT _																PRC			No		_1		624778
		N <u>12861 Dixie Road, Caledon</u> BORING <u>02/27/2023</u>				WAT	ER I	LEVEL									DAT TPC			– 'AT	ION			NAD83
			T	П			SA	MPLES			1U	NDF			SH	ΗEΑ	R S		ΕN	GTI		Pa)		
(m) H	TION (1	OTDATA DECODIDION	A PLC	LEVE	(ff)			mm) 8(%)	<u> </u>	┝		-	50		+	10)()	+	-	150			009	117
ОЕРТН (m)	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEPTH (ft)	TYPE	NUMBER	RECOVERY (mm) TCR(%) / SCR(%)	N-VALUE OR RQD(%)				CONT								w _P ⊢ /S/0.3	W		W _L -I REMARKS
	Ш		S	Š			S S	COVE R(%)	N-V OR R		AT	NDAF	RD PE	ENET	RAT	ΓΙΟΝ	TES	T, BL	.OW	/S/0.:	3m	•	•	& GRAIN SIZE DISTRIBUTION
0 -	269.9	TOPSOIL	1/4		0			A S			10	2	0	30	40	5	0 (60 	70	8	0	90 1	00	(%) GR SA SI CL
-	269.5	Clayey silt, Trace gravels Brown, loose, moist	<u>// </u>		1 -	SS	1	300 460	6		•												-	
-		SANDY LEAN CLAY (CL) sand seams, Brown, Very stiff, moist			2 -					-													-	
1 -	268.7				3 -	SS	2	<u>460</u> 460	29					•									-	
	200.7	Crushed gravels with sand, hard, brown			5 -					-													-	
-					6 -	SS	3	460 460	50)						-	
2 -					7 -																		-	
					8 -	SS	4	<u>460</u> 460	50														-	50 For 5" Refusal
3 -					9 -																		-	
-					10 -	SS	5	150 460	50														-	50 For 5" Refusal
-	266.4	Borehole terminated at 3.55 m BDS		1	12																		-	
-		Borehole is open and dry			12 -																		-	
4 -					13-																		-	
-					14-																		-	
-					15-																		-	
5 -					16-																		-	
										1	0	Rei	ld V noul ket	ded	Va	ne T	est,			ļ				

	s	tantec	B	OR	REH N: 4	IOI 848 5	LE 35 I	RE(E: 595	COR	D							B	H/1	ΛV	V.	31	-2	Sh 3	eet 1 of 1
C	LIENT .	QuadReal Properties														I	PRO	JEC	ГΝ	o.			12	1624778
		N 12861 Dixie Road, Caledon															DAT	ΓUM						NAD83
D	ATES: E	BORING <u>02/27/2023</u>				WAT	ER I	LEVEL		_														
٦ (٦	 <u>Z</u>		LOT	VEL	(L		SAI	MPLES		۱ ا	JNE		AIN 50	ED :	SHI	EAI 10		TRE	NG 150		(kF		200	
DEPTH (m)	M)	STRATA DESCRIPTION	IA PI	R	DEPTH (ft)		l re	(mm SR(%	ы %		-		+			1		-	-	,	$\mathbb{W}_{\!P}$	W	7	$W_{ m L}$
DEP	ELEVATION (m)		STRATA PLOT	WATER LEVEL	HE I	TYPE	NUMBER	ERY)/SC	-VALUE RQD(%)									G LIM TEST.)WS	S/0.3	—⊖ m	• •	REMARKS
			S	\$		-	Ž	RECOVERY (mm) TCR(%) / SCR(%)	N-N-N-N-N-N-N-N-N-N-N-N-N-N-N-N-N-N-N-									Γ, BLC					•	& GRAIN SIZE DISTRIBUTIOI
0 -	269.4	TOPSOIL	***		0	l M					10 T::	20	3	0 	40	50) 6	50 ′	70 	80	9	0 	100	GR SA SI C
	269.0	Clayey silt, Trace gravels	1,0 1		1 -	SS	1	<u>360</u> 460	3	•														
		Brown, loose, moist	V./,		3 -	SS	2	460	29	-													:	
1 -		SANDY LEAN CLAY (CL) Silty sand seams, traces of gravel	//		4 -	V 22	2	<u>460</u> 460	29														:	
		Brown, very stiff to hard, moist			5 -	SS	3	<u>460</u> 460	42						•								E	
2 -			//,		6 - 7 -			460															<u> </u>	
-	266.7				8 -	SS	4	<u>460</u> 460	38						•								E	
3 -	200.7	Hard, brown, moist	1	,	9 - 10-														: : :				: [
					11 -	\sqrt{ss}	5	460 460	50		1					•								5 26 31 3
	265.5		1	•	12-																			
4 -		Hard, grey, wet			13 - 14 -]																	:	
-					15-	Mag		200															:-	
5 -					16- 17-	SS	6	<u>200</u> 460	50								Y : : : : : : : : : : : : : : : : : : :						:	
-					18-																			
6 -					19-																		:	
			/		20 -	ss	7	180 460	50							•							:	
					22 -			400																
7 -					23 - 24 -						1												: <u>[</u>	
=				▼	25 -	<u> </u>		100	_	-													#	
8 -			,	-	26-	SS	8	180 460	50	- :::::						•): : : : : : : :						:	
	260.9		1/2		27 - 28 -	 																		
9 -		Traces of gravel Hard, grey, wet	//		29-																		: [
^ =	250.0				30 - 31 -	SS	9	<u>250</u> 460	50															
=	259.8	Borehole terminated at 9.60m BGS.	1.		32 -			460			:::								1:::				: -	
10-		Monitoring well installed to 9.6 m BGS.			33-																		<u> </u>	
-		DOS.			34 - 35 -	 																	E	
11-					36-																:::		<u>:</u>	
=					37-																		:: <u>E</u>	
12-					38 - 39 -																			
12-														ne T				L-D -						

△ Pocket Penetrometer Test, kPa

	s	tantec MO	NI	ΓO	RI] N: 48	NG WELI 348 535 E: 595	L RECOR	D		ВН	/MW31	Sheet 1 of 1 -23
C	LIENT _	QuadReal Properties								PROJE	CT No.	121624778
L	OCATIO:	N <u>12861 Dixie Road, Caledon</u>								DATU	М	NAD83
D	ATES: E	BORING <u>02/27/2023</u>				WATER LEVEL				TPC EI	LEVATION _	
	_		T	긢				S	AMPL	.ES		
DEРТН (m)	ELEVATION (m)		STRATA PLOT	WATER LEVEL	H (ft)		POUR		~	111	1 ,	WELL
PTH	(m)	STRATA DESCRIPTION	ΙTΑ	ER L	DEРТН (ft)	CONCEN	TRATIONS	TYPE	NUMBER	N-VALUE		
DE			TR	ΙΨ		• %LEL	▲ ppm		$ \sum_{i=1}^{N}$	\ \\ \-\ \-\	CONS	TRUCTION
			0)	>		20 40	60 00		_	_		
_ 0 -	269.4		10/ 0		0	● 20 40 ▲ 100 200	60 80 300 400				V4 N/	
- " :	269.0	TOPSOIL Clayey silt, Trace gravels	1/ 1/		1 -			∭ SS	1	3		
1 -		Brown, loose, moist			2 -							
1 -		SANDY LEAN CLAY (CL)			3 -			∭ ss	2	29		
- :		Silty sand seams, traces of gravel	/•/		4 - 5 -							
E :		Brown, very stiff to hard, moist	6/		6 -			ss	3	42		
- 2 -			,/,		7 -							
	266.7				8 -			ss	4	38		
2	200.7	Hard, brown, moist	1.7		9 -							
			6/		10 - 11 -			\parallel_{SS}	5	50		
3 -			//		12 -			1				
4 -	265.5		4		13-			1				
		Hard, grey, wet			14-]				
			//•		15-			ss	6	50		
5 -					16 - 17 -			133	0	30		
					18-]				
- :			•/		19-]				
6 -					20-			W GG	 _	50	 	
-			•		21 -			SS	7	50		
7 -					22 - 23 -			1			[:]	
-			/-		24 -							
			//	Ţ	25-				-		[:] ::	
8 -			,		26-			SS	8	50		
- :	260.9		·/·		27-			1				
= =	20015	Traces of gravel	1		28 - 29 -]				
9 -		Hard, grey, wet			30-			 	-			
- :	259.8		/./		31 -			∭ SS	9	50	Ĭ :≣∷	
		Borehole terminated at 9.60m BGS.			32 -							
10-		Monitoring well installed to 9.6 m BGS.			33 -]				
=					34 - 35 -			1				
11-					36-							
E					37-]				
<u> </u>					38-			1				

LABORATORY ANALYSES:

	s	tantec	B	OR	REH N: 4	[O] 848 6	LE 81 1	RE (E: 595	COR	D]	ВН	32-2	.3	Sł	heet 1 of 1
C.	LIENT _	QuadReal Properties												P	ROJE	CT No.		12	21624778
		N <u>12861 Dixie Road, Caledon</u>												_ D	ATU	М _			NAD83
D	ATES: E	ORING 02/27/2023				WA	ΓER I	LEVEL											
(C)	z		10.	ÆL	æ		SAI	MPLES	; -	ן '	UNI	DRAIN 50	ED S	HEAR 100		RENGTI 150	∃ (kPa	a) 200	0
F F	MTIC (n	STRATA DESCRIPTION	A PL	LE F	H H			(mm) R(%)	(9)		+		-		+	+	W _P	W	$W_{ m L}$
ОЕРТН (m)	ELEVATION (m)	STIVEN BESSELL HOLL	STRATA PLOT	WATER LEVEL	DEPTH (ft)	TYPE	NUMBER	RECOVERY (mm) TCR(%) / SCR(%)	N-VALUE OR RQD(%)			R CONTE				IMITS ST, BLOW	10/0/0-2	0	REMARKS
	Ш		S	×		🖰	S	30VE	N-7 N-7							LOWS/0.3		•	& GRAIN SIZE DISTRIBUTION
0 -	269.6				0			A P		<u> </u>	10	20 3	80 4	0 50	60	70 8	0 90	100	0 GR SA SI C
	269.3	TOPSOIL Clayey silt, Trace gravels	. <u></u>	-	1 -	\sqrt{ss}	1	$\frac{410}{460}$	6	•									
		Brown, loose, moist			2 -													E	1
1 -		SANDY LEAN CLAY (CL)			3 -	\sqrt{ss}	2	<u>460</u> 460	32	:::: ::::			•						-
	268.1	Silty sand seams, traces of gravel Brown, very stiff to hard, moist			5 -			460										Ē	_
2		Hard, brown, moist			6 -	X SS	3	<u>460</u> 460	41					•					
					7 - 8 -	Mag		460										:::: F	
					9 -	SS	4	460	50									E	
3 -			,,		10-	SS	5	<u>460</u> 460	50										50 For 4" Refusa
-					11 - 12 -			460	30					 					-
4			9/		13-														_
					14-	1												::: 	
	264.7				15- 16-	\sqrt{ss}	6	<u>460</u> 460	50					•				iii E	Hard Augering
5 -		Traces of gravel, some silt seams Hard, grey, moist			17-			100										=======================================	1
-		, 5 3,			18- 19-	<u> </u>													1
6 -					20 -	\downarrow		420		<u> </u>								<u>-</u>	50 For 5" Refusa
	263.0					\sqrt{ss}	7	<u>430</u> 460	50					•				Ė	_
7 -		Borehole terminated at 6.55 m BGS			22 - 23 -	<u> </u>													
'					24 -														
=					25-													Ē	
8 -					26 - 27 -	 													1
					28-													:::E	_
9 -					29 -	1											<u> </u>		_
					30 - 31 -]													
10			-		32 -					:::									
10-					33 - 34 -	1												E	
					35-													:::	-
11-					36-														-
					37 - 38 -													ĮF	_
12-					39-													E E	
12												Field Va							
												Remould Pocket I							

	Stantec BOREHOLE RECORD N: 4 848 749 E: 595 344 CLIENT QuadReal Properties															В	H/1	ΜV	V3	33	-2.	She	eet 1 of 1
Lo	OCATIO	N 12861 Dixie Road, Caledon						LEVEL								DA	OJEC TUM			- -			.624778 NAD83
Ъ	ATES: E	oring <u>02/27/2023</u>				WAI				_													
DЕРТН (m)	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEPTH (ft)	TYPE	NUMBER	RECOVERY (mm) TO TOR(%) M M M M M M M M M M M M M M M M M M M	N-VALUE OR RQD(%)	WA DYI	TER	COI	50 + NTE	NT & E PEN	ATTE	00 + RBEF	RG LIM	150 	V I WS/	V _P	W O	7 [W _L → REMARKS & GRAIN SIZE DISTRIBUTIO
0 -	268.3		1		0					1	0	20	3	0 4	10	50	60	70	80	9() 1		(%) GR SA SI C
- -	267.5	TOPSOIL Clayey silt, Trace gravels Brown, loose, moist	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		1 - 2 -	SS	1	460 460	9													111111111111111111111111111111111111111	
1 -		SANDY LEAN CLAY (CL) Silty sand seams, traces of gravel Brown, stiff to hard, moist			3 - 4 - 5 -	SS	2	460 460	11		•												
2 -		Brown, sum to hard, moist		¥	6 - 7 -	SS	3	460 460	50							•						1111	
3 -	265.5	Hard, brown, moist	•/ <u>/</u>		8 - 9 - 10-	SS	4	<u>460</u> 460	40						•								
-					11 - 12 -	SS	5	<u>460</u> 460	50							•						11111111	Wet Spoon
4 -					13 - 14 -																		
5	263.4	Traces of gravel			15- 16- 17-	SS	6	<u>460</u> 460	50							•							
6 -		Hard, grey, wet			18- 19-																		
-					20 - 21 - 22 -	SS	7	<u>460</u> 460	50							•							
7 -					23 - 24 -																		
8					25 - 26 - 27 -	SS	8	<u>460</u> 460	50							•							
9 -	259.7	Hard, grey, wet			28 - 29 -																		
-	258.7		//		30 - 31 -	SS	9	<u>460</u> 460	36					•									Water In Spoon
10-		Borehole terminated at 9.60m BGS. Monitoring well installed to 9.6 m BGS.			32 - 33 - 34 -																		
11-					35- 36- 37-																	111111	
12-					37- 38- 39-																		
12											Fi	eld	Va	ne To	est, k	Pa							

■ Remoulded Vane Test, kPa△ Pocket Penetrometer Test, kPa

C	s	tantec MO	NI	ГО	RI N: 48	[N 84	G 8 74	W 19 1	/ E	[L] 59:	L 3	R]	E(CC)F	RD)		BH	[/MV	V33	Sheet 1 of -23	f 1
LO		N 12861 Dixie Road, Caledon																	DATU			1216247 NAD	<u>83</u>
D.	ATES: E	ORING <u>02/27/2023</u>				_ \ 	VAT	ER	LEV	VEL	_					_				LEVAT T	ION _		
(E	 <u>Z</u>		LOT	VEL	ff)				,	VAF	POL	JR				-	SA	AMPL	.ES	-		A/E1 1	
DEРТН (m)	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DЕРТН (ft)		•	%L	_EL			•	pŗ	om			TYPE	NUMBER	N-VALUE	(WELL TRUCTION	
0 -	268.3					(20 .00		40 .00	30	00 00	8 40	0 00_						NA NA	,		
0 -	267.5	TOPSOIL Clayey silt, Trace gravels Brown, loose, moist	1/2 1/2 1/2 1/2		1 - 2 -												SS	1	9				
-		SANDY LEAN CLAY (CL) Silty sand seams, traces of gravel			3 - 4 -	-											SS	2	11				
2 -		Brown, stiff to hard, moist		T	5 - 6 - 7 -											X	SS	3	50				
	265.5	Hard, brown, moist	•/•		8 - 9 -	-											SS	4	40				
- 3 - 		22			10 - 11 - 12 -	-											SS	5	50				
4 -					13 - 14 -											-							
5 -	263.4	Traces of gravel	1/2		15- 16- 17-	-										X	SS	6	50				
		Hard, grey, wet			18- 19-	-										-							
- 0 -					20 - 21 - 22 -	-											SS	7	50		•		
- 7 - - 7 -					23 - 24 -	+										-							
					25 - 26 -	- 1 :											SS	8	50	╁┋	•		
_ 8 - - -	259.7		1		27 - 28 -	-															•		
8 -		Hard, grey, wet			29 - 30 -	\vdash											SS	9	36		•		
- <u>-</u>	258.7	Borehole terminated at 9.60m BGS.	1.		31 -											1	33	9	30	[:甘::	•		
10		Monitoring well installed to 9.6 m BGS.			33 - 34 -	-																	
11-					35- 36- 37-	+																	
12-					38 - 39 -	-										-							
1 -	LABOR	ATORY ANALYSES:																		1			

C	s	tantec	B	OF	REF N: 4	[O] 848 6	E 80 I	RE (E: 595	OR 597	RD					В	H3	34-2	23	;	She	eet 1 of 1
		QuadReal Properties													PRO	OJEC	CT No	o.	1	121	624778
		N 12861 Dixie Road, Caledon				****	CED I	EXTEL								TUM					NAD83
D.	ATES: E	ORING 02/27/2023		<u> </u>	<u> </u>	WAI		LEVEL									EVAT ENGT				
(m)	NO		STRATA PLOT	EVEL	Œ		SAI	MPLES	i	Ľ	יטאוכ	50			00	, I I N.L	150		-	200	
DЕРТН (m)	ELEVATION (m)	STRATA DESCRIPTION	TAF	II II	DEРТН (ft)	l	监	Y (mr	JE (%)	\\\\\	ATER	CONT	FNT 8	& ATTE	RREF	SC I IV	/ITS	Wp	> W	_	$W_{\rm L}$
DE			STR/	WATER LEVEL		TYPE	NUMBER	VER' %)/S	N-VALUE OR RQD(%)	DY	NAMI	c cor	NE PE	NETRA	AOITA	I TEST	T, BLO		3m \	•	REMARKS & GRAIN SIZE
	269.7		1				ž	RECOVERY (mm) TCR(%) / SCR(%)	NO								OWS/0		00 1	100	GRAIN SIZE DISTRIBUTION (%) GR SA SI C
0 -	268.7	TOPSOIL	711/4		0	M						20	30	40	30 		70		70 1	-00,	GR SÁ SI C
-	268.4	Clayey silt, Trace gravels Brown, loose, moist	1/2. 3		1 -	SS	1	410 460	4											: F : F	
-		SANDY LEAN CLAY (CL)			2 -															F	
1 -		Silty sand seams, traces of gravel Brown, very stiff to hard, moist	1.		3 -	ss	2	<u>460</u> 460	19		ļ::::	•									
-		Brown, very still to hard, moist			4 -	/\		400												-	
_	267.2	Hard, brown, moist	1/2	•	5 -	l M			_												
-					6 -	ss	3	$\frac{460}{460}$	41					•							
2 -			//		7 -																
-					8 -	ss	4	<u>460</u> 460	41												
-			•/		9 -	N°	Ŀ	460												-	
3 -					10-				_	_											
-					11-	ss	5	<u>460</u> 460	47					•							
-					12 -	<u> </u>															
4 -					13-															-	
-			,		14-]														-	
_					15-															F	
-	263.8		<u>/</u>		16-	$\int \int ds$	6	<u>460</u> 460	48											: [- : [-	Hard Augering
5 -		Traces of gravel, some silt seams Hard, grey, moist	//		17-	H		400													
-		1141.0 , g. 0 , 1101.0	//		18-															: : : 	
-																				F	
6 -					19-																
-			1		20-	ss	7	<u>410</u> 460	50											-	50 For 5" Refusal
_	262.2	Borehole terminated at 6.55 m BGS	//	_	21-	1		460													
		Dotellole terminated at 0.55 in DGS			22 -	†														: - : - : -	
7 -					23 -															-	
-					24 -																
-					25-	1														-	
8 -			<u></u>		26-	<u> </u>					E:	ad V	ore T	est, k	Do.	<u>: :::</u>	<u>: :::</u>	<u>: :::</u>	<u>: ::::</u>	<u>:</u>	
											Re	moul	lded '	Vane '	Test,						
											Po	cket	Pene	trome	ter T	est, k	Pa				

	s	tantec	B	OR	REH N: 48	[OI 848 7	E 85 1	RE (E: 595	COR	RD)						E	ВΗ	[3:	5-2	23		;	She	et 1 of 1
	LIENT _															_	PR	.OJI	ЕСТ	ΓN	0.	_	1		<u>624778</u>
		N <u>12861 Dixie Road, Caledon</u> BORING <u>02/27/2023</u>				WAT	ER I	LEVEL								_	DA TP			Va'	ГΙΩ	N			NAD83
		OMING SECTION	<u> </u>					MPLES			1U	NDF			D S	HE/	AR :			۱G٦	ТН		a)		
(m) H	TION (V PLO	LEVE	H (ft)			(%)}					50		-	1	00		-	150		+		00	
DEРТН (m)	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEPTH (ft)	TYPE	NUMBER	RECOVERY (mm) TCR(%) / SCR(%)	N-VALUE OR RQD(%)							ATTE						V <i>P</i> ┣── ′0.3n	0	- • [W _L -1 REMARKS
			S	>		Ĺ	Š	COV CR(%)	N-N-N-N-N-N-N-N-N-N-N-N-N-N-N-N-N-N-N-		T 4 h	ID 4 I			-TD	. TIO		от 1	I	NO	٠		_	ַ	& GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
0 -	266.8	TOPSOIL	7/:/4		0	П		H		1:::	10	2	20	30	4	0	50 :::	60	7	0	80	9() 1	00	GR SA SI CL
-		Clayey silt, Trace gravels Brown, loose, moist	1/2 × 1		1 -	SS	1	460 460	8		•													<u> </u>	
-	266.0		~	•	2 -																				
1 -		SANDY LEAN CLAY (CL) Silty sand seams, traces of gravel Brown, firm, moist			3 -	SS	2	<u>460</u> 460	7		•													-	
-	265.2				4 -					-														-	
-	265.2	very stiff to hard, grey, moist			5 -	SS	3	410 460	23				•												
2 -					6 -			100																-	
-					8 -	V		460		-															
-					9 -	SS	4	460 460	49	-															
3 -					10-	. /				-															
-	263.3				11 -	SS	5	<u>460</u> 460	44							•									
-	200.0	Borehole terminated at 3.55 m BGS			12 -																				
4 -					13-																				
- - -					14-																				
-					15-																				
5 -					16-								 		-										
												Re	mou	lde	d V	st, k ane ' ome	Test			'a					

C	s	tantec	B	OF	REH N: 4	IOI 848 0	LE 56 I	RE (E: 595	COR	D]	ΒI	Н3	6-2	23		S	sheet 1 of 1
	LIENT _	QuadReal Properties N12861 Dixie Road, Caledon													_			JEC UM		o.		12	21624778 NAD83
D.	ATES: E	ORING <u>03/02/2023</u>				WAT	ER I	LEVEL								T	РC	ELE	VA	TIO	N .		
DЕРТН (m)	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEРТН (ft)			MPLES		-	JND 		INE	ED S		AR 100 +		TRE	NG ⁻	0	(kP ⊢ <i>N</i> P	a) 20 W	00 <i>W</i> L
DEP.) ELEV		STRAI	WATER	DEP	TYPE	NUMBER	RECOVERY (mm) TCR(%) / SCR(%)	N-VALUE OR RQD(%)	DY	NAM	IC CO	ONE PEN	PEN IETR	NETR.	ATIO N TI	ON T	G LIM TEST , BLC	, BLC	0.3m	1 /0.3n	on ▼	REMARKS & GRAIN SIZE DISTRIBUTION
0 -	265.7	TORCOH	7/·/·		0	<u> </u>		뿐은			10	20	30) 4	40 	50	6	0	70 	80	9(0 10	OR SA SI CI
-	265.4	TOPSOIL Clayey silt, Trace gravels Brown, loose, moist			1 -	SS	1	<u>360</u> 460	4	•													- - -
1 -		SANDY LEAN CLAY (CL) Silty sand seams, traces of gravel Brown, very stiff to hard, moist			3 -	SS	2	<u>460</u> 460	24														- - - - -
-		Brown, very sum to mara, moise			4 -	/\		400															- - -
2 -					6 -	SS	3	<u>460</u> 460	32					•									- - - - -
-					8 -	SS	4	<u>460</u> 460	26				•										-
3 -	262.6	Traces of gravel, some silt seams			9 -	M		460															-
-		Very stiff, brown, moist			11 - 12 -	SS	5	460 460	50	-													- - -
4 -					13-	.																	- - -
-					14-	M		460															Hard Augering
5 -	260.8	Hard, grey, moist	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		16- 17-	SS	6	<u>460</u> 460	34					•									-
-					18-																		- - - -
6 -					19 - 20 -	<u> </u>		460															- - -
-	259.1		//		21 -	SS	7	460 460	50							•							-
7		Borehole terminated at 6.55 m BGS.			22 -																		= - - -
7 -					23 -																		
-					25-																		
8 -					26-	<u> </u>					Fi	eld	Var	ne To	est, k	: : cPa	:::	l::::	1:::	:1:	ا:::ا		
										Δ					⁷ ane rome			cPa st, kl	Pa				

	s	tantec	REH N: 48	[O] 848 1	LE 27	RE(E: 595	COR	RD						В	Н3	37-	23	3	5	Shee	t 1 of 1		
	LIENT _															PRO	OJEC	CT N	√o.		1	<u>216</u>	<u> 524778</u>
		N <u>12861 Dixie Road, Caledon</u> BORING <u>02/17/2023</u>				WAT	red i	LEVEL									TUM						IAD83
D.		ORING <u>02/17/2023</u>	L			WAI		MPLES			UN	IDR	AIN	ED S	— SHE								
(m)	NOI		PLOJ	EVEI	(#		JA			-			50			00		15		+		00	
ОЕРТН (m)	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEPTH (ft)	Ш	出	SCR(m	N-VALUE OR RQD(%)	w	/ATE	ER C	' ONTI	ENT 8	ATTE	RBER	RG LIN	ИITS	,	W _P	W	И	Ľ
DE	H		STR	WAT	👸	TYPE	NUMBER)VER %)/8	-VAL ROI						NETRA						n 🔻		REMARKS & GRAIN SIZE
	264.4						Z	RECOVERY (mm) TCR(%) / SCR(%)	N P	S	1AN	DAR 2(D PE	NE 1 F	RATION	N IES 50	1, BL0	70	0.3n	n 9	0 10	00 G	STRIBUTION (%) R SA SI CL
0 -	20111	TOPSOIL	· · · · ·		0	M																-	Y SA SI CL
-		Clayey silt, Trace gravels Brown, loose, moist	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		1 -	ss	1	$\frac{460}{460}$	6														
-	263.9	SANDY LEAN CLAY (CL)	1/. \\							 													
-		Silty sand seams, traces of gravel			2 -																		
-		Brown, stiff, moist			_	1																	
1 -					3 -	ss	2	130 460	9		•											H	
-			! //		4 -	/\																	
-																							
_	262.9	very stiff to hard, grey, moist	1.		5 -					-												H	
-		, 5				ss	3	250 460	8		•												
_			//		6 -	1		400															
2 -					7 -																	F	
-			1/							 													
-					8 -	SS	4	<u>410</u> 460	26														
-			! //			N^{33}		460	20														
-					9 -																	-	
3 -			//		10-				_													H	
-			//		10	M		460															
-	2600		1/2		11 -	SS	5	460 460	37						'								
_	260.9	Borehole terminated at 3.55 m BGS	12																				
-					12 -																		
-					13-																		
4 -																						П	
-					14-																		
_																							
-					15-																		
-					16-																		
5 -											11	Field	d V	ne T	est, k	Pa	Ш	<u>: ::</u>			::::		
											3	Ren	noul	ded V	/ane	Test,							
										4	7	Pocl	ket I	Penet	rome	ter Te	est, k	Pa					

\mathcal{C}	s	tantec	B	OR	REH N: 4	IOI 847 3	E 89 I	RE (E: 596	C OR	D						В	H/	ΜV	V3	8-23	Shee 3	et 1 of 1
Cl	LIENT _	QuadReal Properties														PRC	JEC	T No).	1	216	<u> </u>
LO	OCATIO!	N 12489 Dixie Road													_	DA	ΓUN	I .			N	IAD83
D.	ATES: B	ORING 01/23/2023				WA	ER I	LEVEL	03/10	0/20)23					TPC	EL	EVA7	TION			
			—	بــا			SAI	MPLES		ı	JNE	RA	INE	D S	HE/	AR S	TRE	NGT	H (k	Pa)		
(m)	NO		2	K	Œ		T					5	50		1	00	_	150)	20	00	
Ŧ	'ATI m)	STRATA DESCRIPTION	Ι¥	X	I		l r	Ē,Ķ	ш%		,		1			1		'	W	W	И	$V_{ m L}$
DЕРТН (m)	ELEVATION (m)		STRATA PLOT	WATER LEVEL	DEPTH (TYPE	BE	SC/	-VALUE RQD(%)							RBER			H		一	REMARKS
	Ш		S	*	-	}	NUMBER	88	N-V OR R									r, blo' ows/0		3m ▼	, ,	& GRAIN SIZE
	264.9						_	RECOVERY (mm) TCR(%) / SCR(%)	20		10									90 10	וטן	STRIBUTION (%) R SA SI CL
0 -	264.6	TOPSOIL	7/1/		0	M				1	T	1				Tiiii	T				E GI	R SA SI CL
_	204.0	silty clay, trace of gravel, organics			1 -	SS	01	$\frac{410}{610}$	7	•												
-		Brown, loose, moist		1	2 -																Ē	
1 -	263.7	SANDY SILTY CLAY (CL-ML)			3 -	∬ss	02	<u>200</u> 610	22			•									H	
=		sandy silty clay Very stiff, brown, DTPL	1//		5 -			010													Ħ,	26 34 36
_ =		SANDY LEAN CLAY (CL)			6 -	$\ _{SS}$	03	<u>610</u> 610	16													20 34 30
2 -		trace of gravel	/,/		7 -	<u> </u>		610								1::::					Ħ	
=		brown, very stiff, moist	6/		8 -	Wee.	04	610 610	17												E	
2	262.0		1/	1	9 -	133	0-	610	1 /													
3 -		Some gravel, smooth gravel within	1/		10-	W ~ ~		610													Ħ	
-		sample brown, very stiff, moist			11-	₩ss	05	$\frac{610}{610}$	21												H	
4		ere, . e rg extra theret	/•/	•	12 - 13 -						H										- 10	26 33 31
4 -			6/		14-	∬SS	06	<u>510</u> 610	17			•										
=	260.4		1	•	15-																H	
5 -		grey, stiff, very moist			16-	$\int SS$	07	$\frac{610}{610}$	12		•				::::							
3 -			/,	1	17-		-	010													Ė.	
-			·/	•	18-	1															H	
6 -					19-	†																
=			9/9		20 -	W _{CC}	00	300	27												ŧI.	
-					21 -	SS	08	300 610	27												Ħ	
7 -			//	1	23 -]				:::						::::					Ħ	
			//		24 -																Ē	
-	257.3	LEAN CLAY (CL)			25-	\downarrow																4 45 51
8 -		Trace of sand			26-	∬ss	09	610 610	17	:::	0	•				1::::						
=		grey, very stiff, very moist			27-																ŧI.	
-				Į▼	28-	†															E	
9 -	255.8				29 - 30 -					:::: ::::					::::	1::::	1:::			<u> </u>	H	
		Shale fragaments		1	31 -	\mathbb{M}_{ss}	10	<u>610</u> 610	50												Ē	
-	255.2	grey, hard, very moist		1	32	1	10	610		:::		: :			::::	1::::	1:::					
10-		Borehole terminated at 9.75 m BGS Borehole dry and open			33 -					:::						1::::					Ħ	
-		Bereinere any and open			34-																	
=					35-	1															Ē	
11-					36-	† 				:::												
=					37 - 38 -																Ħ	
10					39 -																ŧl.	
12-			1	•							Fi	ield	Van	e Te	st, k	Pa						
										•	R	emo	ulde	d V	ane [Γest,						
										Δ	Pe	ocke	et Pe	netr	omet	ter Te	est, k	Pa				

	s	tantec ^{MO}	NI	ΓO	RI V: 48	NG 847 3	W]	EL 59	L 06 08	RF	EC	OR	D			ВН	/MW3	Sheet 1 of 1 8-23
L	LIENT _	N 12489 Dixie Road										.022				DATU		121624777 NAD83
D	ATES: E	ORING 01/23/2023				WAT	ER L	EVE	L <u>(</u>	<u>J3/1</u>	0/2	.023	Τ				LEVATION	
DEPTH (m)	(m) 264.9	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEPTH (ft)	•	CON %LE	ICEN EL 40	ć	ATI0 ▲ 50	ppr	m		TYPE	NUMBER W	N-VALUE	COV	WELL
- 0 -	264.9	silty clay, trace of gravel, organics	<u></u>		1 - 2 -		100	200	3	00	400)		SS	01	7		
1 -	263.7	Brown, loose, moist SANDY SILTY CLAY (CL-ML) sandy silty clay			3 - 4 -								1	SS	02	22		
-		Very stiff, brown, DTPL SANDY LEAN CLAY (CL)			5 - 6 - 7 -									SS	03	16		
2 -	262.0				8 - 9 -	-							1	SS	04	17		
3 -		Some gravel, smooth gravel within sample brown, very stiff, moist			10 - 11 - 12 -									SS	05	21		
5 - 6 -	260.4				13 - 14 -								1	SS	06	17		
5 -	260.4	grey, stiff, very moist			15- 16- 17-									SS	07	12		
- : - :					18- 19-								1					
			,/,		20 - 21 - 22 -									SS	08	27		
7 - - - 8 -	257.3				23 - 24 -								1					
	237.3	LEAN CLAY (CL) Trace of sand grey, very stiff, very moist			25 - 26 - 27 -									SS	09	17		
- - - - 9 -	255.8			▼	28 - 29 -													
9 -	255.2	Shale fragaments grey, hard, very moist			30 - 31 - 32 -							-		SS	10	50		
10-		Borehole terminated at 9.75 m BGS Borehole dry and open			33 - 34 - 35 -								1					
11-					36- 37- 38-								1111111					
12 -	LABOF	L RATORY ANALYSES:			39-	<u> </u>	<u> </u>	: [:	<u>: : :</u>	1:::	:	. : : : [<u> 1 1</u>					

C	s	tantec	B	OR	REH N: 4	IOI 847 4	LE 79 I	RE (E: 595	C OR	D					ВН	[39	-23		Sł	eet 1 of 1
	LIENT _	-													ROJE		No.	_	12	1624777
		N <u>12489 Dixie Road</u> BORING <u>01/23/2023</u>				WAT	ΓER I								DATU PC E		ATIO	N		NAD83
			-	یا			SAI	MPLES	;	ι	JND	RAIN	IED SI							
(m)	ELEVATION (m)		STRATA PLOT	WATER LEVEL	(#) H						+	50	-	100)	1	150	+	200)
ОЕРТН (m)	EVA] (m)	STRATA DESCRIPTION	ATA	ERI	DEPTH (ft)	ш	ÄER	₹ SCR	.VALUE RQD(%)	WA	TER	CONT	ENT & A	TTERE	BERG I	LIMITS		<i>N</i> P ├ ──	W	<i>W</i> _L ─1
DE	日		STR	WA	┌┌	TYPE	NUMBER	OVEF (%) /	I-VAL				NE PENE			,			V	REMARKS & GRAIN SIZE
-	265.6						_	RECOVERY (mm) TCR(%) / SCR(%)	유				ENETRA 30 40						100	DISTRIBUTION (%) GR SA SI CL
0 -	200.0	TOPSOIL	· · · · ·		1 -	\mathbb{I}_{SS}	01	410 610	3	•										GR SA SI CL
-	265.0	silty clay, trace of gravel, organics Brown, loose, moist			2 -		01	610												45.00.00
1 -	264.4	SANDY SILTY CLAY (CL-ML)			3 -	ss	02	<u>610</u> 610	13		•									16 32 29 23
=		sandy silty clay stiff, brown, moist			5 -															
2 -		SANDY SILTY CLAY WITH			6 -	SS	03	$\frac{610}{610}$	20			•								
		GRAVEL sandy silty clay with gravel			8 -			610												
2		brown, very stiff, moist			9 -	SS	04	<u>610</u> 610	23			•								
3 -	262.3		M		10- 11-	SS	05	<u>610</u> 610	36				•							
-		SANDY LEAN CLAY (CL) sandy lean clay	//		12 -		-	610												
4 -		hard, brown to grey, moist			13 - 14 -	<u> </u>														
-	261.1	grey, stiff, moist	<u> </u>	•	15-															
5	260.4		//		1	SS	06	$\frac{610}{610}$	20			•							:::E	
=	200.1	very stiff to hard, grey, moist	1.		17 - 18 -															
6 -					19-															
0			//		20 - 21 -	SS	07	<u>610</u> 610	32				•							
=	258.9	Very stiff, grey, moist	//		22 -		07	610	32											
7 -		Very still, grey, moist			23 - 24 -	<u> </u>														
-			//		25 -	<u> </u>														
8 =			1/		26-	SS	08	$\frac{610}{610}$	26			•							::: F	
-			•/		27 - 28 -															
9 -					29-															
-			1.		30 - 31 -	SS	09	610 610	21			•								
10	255.9	Borehole terminated at 9.7 m BGS	<u> </u>	1	32	/\		610												
10-		Borehole dry and open			33 - 34 -															
-					35-	<u> </u>														
11-					36-					::::	::::									
=					37 - 38 -															
12-					39-					::::: 		<u> </u>							<u> </u>	
													ane Tes ded Va			a				
													Penetro							

C	s	tantec	В	OF	REH N: 48	IOI 847 5	LE 22 I	RE (E: 596	C OR	D						В	H	40)-2	.3		Sh	eet 1 of 1
LO	LIENT _	N 12489 Dixie Road														PRO DA	TUI	M	_				1624777 NAD83
D.	ATES: E	ORING <u>01/24/2023</u>	l.	Ι.		WAI		LEVEL						ED 9	— SHE/								
DEPTH (m)	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEPTH (ft)	TYPE	NUMBER	RECOVERY (mm) 7d TCR(%) / SCR(%) 7g	N-VALUE OR RQD(%)	W.A	ATEF	R CO	50 + ONTE	:NT & E PEN		00 + ERBEF	RG L	IMIT	150 + s sLov	W _P	W	200 	W _L −I REMARKS & GRAIN SIZE DISTRIBUTION
0 -	265.8	TOPSOIL	31°14		0						10	20	3	0 4	40	50	60	70	8	80	90	100	(%) GR SA SI CL
-	265.2	silty clay, trace of gravel, organics Brown, loose, moist			1 - 2 - 3 -		01	610	6	•													
1 -		SANDY SILTY CLAY (CL-ML) sandy silty clay Very stiff, brown, DTPL			4 - 5 -	/ \	02	610	22	-													6 35 32 27
2	263.7	SANDY SILTY CLAY WITH		•	6 - 7 - 8 -		03	610	20	-		•										1.	
3		GRAVEL (CL-ML) sandy silty clay with gravel Very stiff, brown, DTPL			9 - 10-	1	04	610	21			•											
1					11 - 12 - 13 -	SS	05	610 610	23			•										11111111	
4 -	261.2	SANDY LEAN CLAY (CL)			14- 15-																		18 30 25 27
5		Very stiff, Brown to grey, some rusty vanes		•	17 - 18 -	SS	06	610 610	18			•											
6 -	259.7	Shale fragaments, hard			19 - 20 - 21 -	SS	07	610 610	26														
7 -					22 - 23 -	/\ 		610															
8 -					24 - 25 - 26 -	SS	08	610 610	36					•									
	257.6	Borehole terminated at 8.22 m BGS Borehole dry and open			27 - 28 -	/\ 		610															
9 -					29 - 30 - 31 -	SS	09	250 610	50							•							
10				-	32 33 -	/ \		010															
					34 - 35 -																		
11-					36 - 37 - 38 -	† 																	
12					39-						F	ield	Va	ne T	est, k	·Pa						: 	
											R	Remo	ould	led V	ane ' rome	Test,			ı.				

C	s	tantec	B	O F	REH N: 43	IOI 847 4	LE 02 F	RE(E: 596	C OR	D]	BE	I 41	1-2	23		Sh	eet 1 of 1
	LIENT _	QuadReal Properties N _ 12489 Dixie Road														ROJ OATU		` No).	_		1624777 NAD83
		BORING 02/01/2023				WAT	TER I											VAT	ION	ſ		
n)	Z		TO.	VEL	L)		SAI	MPLES	3	ι	JND	RAI 5	NED 0	SHI	EAR 100		REN	NGT 150		Pa)	200	
DEРТН (m)	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEPTH (ft)	TYPE	NUMBER	RECOVERY (mm) TCR(%) / SCR(%)	N-VALUE OR RQD(%)	DY	NAM	CON	ITENT ONE PE PENET	ENET	RATIO	ON TE	EST,	BLOV	VS/0.	3m	▼ •	W _L REMARKS & GRAIN SIZE DISTRIBUTION
0 -	264.6				0						10	20	30	40	50	60	7	0 8	30	90	100	GR SA SI CL
1	263.8	FILL Sandy silt, with gravel Brown, moist		V V V V V V V V V V	1 - 2 -	SS	01	300 460	3	•												
1 -	263.4	SANDY SILTY CLAY (CL-ML) sandy silty clay			3 -	ss	02	<u>200</u> 460	19												:: -	
-		Very stiff, brown, DTPL			5 -	W 55	03	300 460	32	-												
2 -		SANDY SILTY CLAY WITH GRAVEL			6 - 7 -				32													
3 -		sandy silty clay with gravel Hard, brown, moist			9 -	SS	04	<u>360</u> 460	33				•									
, , , , , , , , , , , , , , , , , , ,					10-	ss	05	<u>460</u> 460	34				•									
4 =					12 - 13 -]															::-	
-	260.0	grey, hard, moist		•	14 - 15 -	Mag	06	430	22	-												
5		groy, mus, moust			16 - 17 -	SS	06	<u>430</u> 460	33													
-	258.5				18- 19-	 																
6 -	_236.3	LEAN CLAY (CL) Hard, grey, moist	N.			ss	07	<u>410</u> 460	50						•							
7 -		7.5 3.7			22 - 23 -																	
-					24 - 25 -			460														
8 -					26 - 27 -	SS	08	<u>460</u> 460	47	-					•							
-					28 - 29 -																	
9 -	255.0				30 - 31 -	SS	09	<u>460</u> 460	52						•	· · · · · ·						
10-	233.0	Borehole terminated at 9.6 m BGS Borehole dry and open			32 - 33 -			100														
-					34 - 35 -																	
11					36-]															:: -	
-					37 - 38 -																*******	
12-				1	39-	<u> </u>	<u> </u>				Fi	eld \	Vane	Test,	∷ : , kPa				IIII	<u>:1::</u>	<u>::</u> }	
													ulded t Pene					a				

C	s	tantec	В	OF	REF N: 4	HOI 847 4	E 15 I	RE (E: 596	C OR	D					BH	142	2-23	3	Sł	neet 1 of 1
	LIENT _	10100 71 1 7 1													PROJ DATU		No.	_	12	1624777 NAD83
D.	ATES: E	BORING <u>02/06/2023</u>				WAT	ER I	LEVEL							TPC I	ELEV	VATIO	ON _		
(m)	NC		LOT	SVEL	(ft)		SAI	MPLES	S	l	JND	RAII 5(NED S		R ST	REN	NGTH	l (kPa	a) 200)
DEРТН (m)	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEPTH (TYPE	NUMBER	RECOVERY (mm) TCR(%) / SCR(%)	N-VALUE OR RQD(%)	DYI	NAMI	ссо	TENT & NE PEN	IETRA	TION TI	EST, I	BLOW	1 S/0.3m	W ▼	W _L REMARKS & GRAIN SIZE DISTRIBUTION
0 -	262.5		×1.0/4.		0					1	0	20	30 4	0 5	0 60) 7(::::	0 80	90	100	GR SA SI CL
1111111	261.9	FILL Sandy silt, with gravel Brown, moist	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	•	1 - 2 -	SS	01	460 460	4											
1 -		SANDY SILTY CLAY WITH GRAVEL (CL-ML)			3 - 4 -	SS	02	<u>250</u> 460	17	-										
2 -	260.5	sandy silty clay with gravel very stiff, brown, moist			5 - 6 -	ss	03	<u>360</u> 460	21			•								
		SANDY LEAN CLAY (CL) sandy lean clay very stiff, brown, moist			7 - 8 - 9 -	SS	04	360 460	25			•								
3		very still, orown, moist			10- 11-	ss	05	380 460	28				•							
4 -					12 - 13 -			400												
	257.9				14- 15-			460		-										
5		grey, very stiff, moist			16- 17-	SS	06	460 460	21			•								
6 -	256.4				18- 19-	1														
-	255.9	grey, hard, moist				ss	07	<u>130</u> 460	50						•					_
7 -		Very stiff to Hard			22 - 23 - 24 -															
8 -					25 - 26 -	\\ ss	08	100 460	19			•								_
-					27 - 28 -			100												
9 -					29 - 30 -			200		-										_
-	252.9	Borehole terminated at 9.6 m BGS	//		31 -	SS	09	<u>200</u> 460	50					•						_
10		Borehole dry and open			33 - 34 -															_
11-					35- 36-															
					37 - 38 -	1														
12-					39-	1					E	old 7	one T	oct 1s1]] Do					
										 -	Re	emou	ane Te lded V	ane T	est, kl					
	l									1 ^	Po	cket	Penetr	omet	er Test	t. kP	а			

C	s	tantec	В	OR	REH N: 48	[O] 847 4	LE 73 I	RE (E: 596	COR	D					BI	H4.	3-2	23		She	et 1 of 1
LO		N 12489 Dixie Road													PRO DAT	UM	_			1	624777 NAD83
D.	ATES: E	ORING 01/27/2023				WAI		LEVEL					IED (
(ш) нт ада	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEPTH (ft)	TYPE	NUMBER	RECOVERY (mm) 7d TCR(%) / SCR(%) 7g	N-VALUE OR RQD(%)	W/ DY	TER	50 + CONT C CON	HED S ENT & NE PEN ENETR	1(ATTEF	00 	H S LIMI TEST,	150 TS BLOV	W _P		7	W _L 1 REMARKS & GRAIN SIZE DISTRIBUTION
0 -	263.6		100		0			A P	0	ļ	10	20	30 4	10 5	0 6	0 7	0 8	30 9	90 1	00 6	(%) BR SA SI CL
-	263.1	TOPSOIL Silty Clay, some sand, some gravel with rootlets Brown, moist			1 -	ss	01	460 460	3	•											
1 -		SANDY SILTY CLAY WITH GRAVEL (CL-ML) sandy silty clay with gravel			3 -	SS	02	360 460	18			D								-	
-	262.0	very stiff, brown, moist SANDY LEAN CLAY (CL) sandy lean clay			5 - 6 -	ss	03	410 460	23			•									
2 -		brown, stiff, moist			7 - 8 -	V 55	04	<u>460</u> 460	25											-	
3 -	260.8	brown, hard, moist		•	9 - 10-	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	04	460												-	
- - - -					11 - 12 -	SS	05	460 460	39												
4 -					13 - 14 -																
5 -	258.7	grey, hard, moist			15- 16-	ss	06	460 460	33				•								
•		g.c.y, i.m.a, i.i.o.o			17 - 18 -																
6 -					19 - 20 -				_											-	
-	257.0				21 -	ss	07	<u>460</u> 460	58						•						
7 -		Borehole terminated at 6.55 m BGS Borehole dry and open			22 -																
- - - -					24 - 25 -																
8 -					26-					-											
											Re	emoul	ane T ded V Penet	ane T	est, k		a				

C	s	tantec	В	OR	REH N: 48	[O] 847 6	LE 95 I	RE (E: 596	COR	D					Bl	H44	4-2	:3	;	Sheet 1 of	1
LO		N 12489 Dixie Road													PRO DAT	'UM	_			2162477 NAD8	33
D.	ATES: E	ORING <u>02/13/2023</u>				WAT		LEVEL		_											_
DEPTH (m)	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEPTH (ft)	TYPE	NUMBER	RECOVERY (mm) 7d TCR(%) / SCR(%) 7g	VALUE RQD(%)	W.	ATER	50 + CONT C CON	ENT &	ATTEF IETRA	00 	H G LIMI TEST,	150 TS BLOV	W _P		00 WL REMAF	
	266.5						Z	ZECC TCR(AN N					ATION 10 5					90 1	DISTRIBU	JTION
0 -	265.9	TOPSOIL silty clay, some sand, some gravel with rootlets Brown, loose, moist	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		1 - 2 -	SS	01	300 460	3	•										GR SA S	SI CL
1 -		SANDY SILTY CLAY WITH GRAVEL (CL-ML) Brown, Very stiff, moist			3 -	SS	02	<u>410</u> 460	25			•									
2 -					5 - 6 - 7 -	SS	03	<u>460</u> 460	24			•									
-	263.8	SANDY LEAN CLAY (CL)			8 - 9 -	SS	04	360 460	21			•									
3 -		Very stiff to Hard, brown to grey, moist			10 - 11 - 12 -	SS	05	460 460	27)							-	
4 -					13-															-	
5 -					15- 16- 17-	SS	06	330 460	34				•							-	
-					18-																
6 -	260.4				20 - 21 -	SS	07	460 460	26			•								-	
7 -		Borehole terminated at 6.55 m BGS Borehole dry and open			22 -																
- - - -					24 - 25 - 26 -																
8 -								•			Re	moul	ded V	est, kl ane T	est, l		Pa	• • • • •		• !	

C	s	tantec	В	OR	REH N: 48	[O] 847 7	LE 45 I	RE (E: 596	COR	D					Bl	H4:	5-2	23		She	et 1 of 1
LO		N 12489 Dixie Road													PRO DAT	'UM	_]	624777 NAD83
D.	ATES: E	ORING 02/13/2023				WAI		LEVEL			INIDI	- A IN	IED (
DEPTH (m)	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEРТН (ft)	TYPE	NUMBER	RECOVERY (mm) 7d TCR(%) / SCR(%) 7g	N-VALUE OR RQD(%)	WA DY	TER (50 CONTI	ENT &	ATTER	00 RBERG	G LIMI	TS BLOW	W _P		7	W _L
0 -	266.2	TORGOY	7/·/·		0			A S)	1	10 2	20 :	30 4	10 5	0 6	0 7	70 8	30 9	90 1	100	(%) GR SA SI CL
1 1 1 1 1	265.9	TOPSOIL silty clay, some sand, some gravel with rootlets Brown, loose, moist		•	1 - 2 -	SS	01	230 460	4	•											
1 -		SANDY SILTY CLAY WITH GRAVEL (CL-ML) brown, very stiff, moist			3 - 4 -	SS	02	<u>410</u> 460	18		•										
2 -	264.7	SANDY LEAN CLAY (CL) brown, very stiff, moist			5 - 6 -	SS	03	430 460	28			•)								
					8 - 9 -	SS	04	<u>460</u> 460	25			•									
3 -					10 - 11 -	SS	05	<u>460</u> 460	27			•									
4 -					12 - 13 - 14 -																
- - -	261.4	grey, hard, moist			15- 16-	SS	06	330 460	30	-			•								
5 -		grey, nard, moist			17 - 18 -																
6 -	260.2	grey, very stiff, moist			19 – 20 –	Vss	07	460 460	19												
-	259.7	Borehole terminated at 6.55 m BGS	//		21 -		37	460	1)												
7 -		Borehole dry and open			23 -																
					25 - 26 -																
8 -			1	1	,		1				Re	moul	ded V	est, kl ane T	est, l		Pa	1	1	<u></u>	

C	s	tantec	B	OR	REH N: 4	[O] 847 4	LE 44 I	RE (E: 596	C O R	RD							E	ВН	[/ N	ΛV	V4	6-	23	neet 1 of 1
	LIENT . OCATIO	QuadReal Properties N12489 Dixie Road														_		ЮЛ АТU		No	Э.	_	12	1624777 NAD83
D	ATES: I	BORING <u>02/06/2023</u>				WA	ΓER I	LEVEL	03/1	0/2	02	3				_	TP	СE	LE	VAT	TION	1 _		
			F	ш			SAI	MPLES	;		U١	NDF	RAII	NEI	D S	HE		STF	REN			кРа		
DEPTH (m)	ELEVATION (m)		STRATA PLOT	WATER LEVEL	(#)			£%				—	50)	-	1	00	_	-	150)	+-	200)
TH	MAT (m)	STRATA DESCRIPTION	Ι¥	띪	DEРТН (ft)		l E	(R)	画(%)	\ \	/AT	ED (TENI	т 9	ATTE	DDE	:DC I	1 1841	те	W	P	W	$W_{\rm L}$
DE			\frac{1}{2}	ATE	DE	TYPE	NUMBER	ER)	.VALUE RQD(%)							ETR/					WS/0).3m	▼	REMARKS
			S	>		-	≥	RECOVERY (mm) TCR(%) / SCR(%)	 	S	TAN	IDAF	RD P	ENE	ETR/	OITA	N TE	ST, I	BLO\	WS/0	.3m		•	& GRAIN SIZE DISTRIBUTIOI
0 -	260.7		\•/ •		0					ļ	10		20	30	4	0	50	60	7	0	80	90	100	GR SA SI C
	260.2	TOPSOIL Silty clay, trace of gravel	7.7	1	1 -	SS	01	<u>250</u> 460	4	•													i i E	
-		Brown, firm, DTPL			2 -																			1
1 -	239.8	SANDY SILTY CLAY (CL-ML)			3 -	∬ss	02	300 460	7	-									:::					1
		Trace of gravel, some rootlets	 -/-	1	4 -			400															:::E	
:		Brown, stiff, moist	1//		5 - 6 -	SS	03	<u>360</u> 460	21				•										::: 	
2 -		SANDY LEAN CLAY (CL) trace of gravel			7 -			400		- : : : : : : :									:::					1
-		Brown, very stiff, DTPL			8 -	SS	04	<u>410</u> 460	24				•											7 29 32 32
3 -	257.8		1/		9 -			460		1:::														
3		brown to grey, hard, moist	//	}	10 - 11 -	SS	05	460	38						•								: : : 	7 29 32 3
-			//		12 -	Η-		460		-			.											29 32 3.
4 -			1/	1	13-					::::									:::					
-					14-																		:::[::::[
-			•//		15-	V 55	06	<u>460</u> 460	37														iii E]
5 -			//	}	16 - 17 -		00	460	37	 														1
]			1/	}	18-																		iii ‡	
	2546			Ţ	19-					:::													iii E	
6 -	254.6	grey, stiff, moist	1.7		20 -	M cc	07	360	10	-														1
-			•/•		21 - 22 -	ss	07	460	10	-	Ī												iii ‡	1
7 -			//		23 -					:::													:::[_
			1./		24-																			
-	253.1	grey, hard, moist	1.7		25-	Mag	00	460	22	1														1
8 -		8-1,	.//		26-	82	08	<u>460</u> 460	32): : : : : : : :				:::				::: <u> </u>	1
-			//		27 - 28 -]				:::													:::E	_
					29 -																			
9 -					30-	M		410		-														1
-	251.1	D 11 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1/2		31-	SS	09	<u>410</u> 460	31															
10-		Borehole terminated at 9.6 m BGS Borehole dry and open			32 -	†				:::														
"		Section of and open			33 -																		iii E	
-					35-																		iii þ	
11-					36-	$\ \cdot\ $:::							:::				:::F	-
					37-					:::														
=					38 - 39 -	1																	iii F	
12-					<i>33</i>					:::: 	نلن ا	Fie	ld V	∷l: ⁄an∈	Te	st, k	⊥∷ Pa	::1:	:::	L	:1::	نلت	1:::	1
										E	3	Reı	nou	lde	d V	ane '	Test							
										_	7	Poo	ket	Per	netr	ome	ter]	Γest	, kP	a				

	s	tantec ^{MO}	NI	TO	RI N: 48	NG WELI 847 444 E: 596	RE 432	CORI	D		ВН	/MW46	Sheet 1 of 1 -23
Lo	LIENT _ OCATIO					WATER LEVEL					DATU		121624777 NAD83
		· · · · · · · · · · · · · · · · · · ·	T							AMPL			
DEPTH (m)	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEPTH (ft)	CONCENT • %LEL	RATIC	ppm	TYPE	NUMBER	N-VALUE		WELL
0 -	260.7	TOPSOIL	×1.0/4.		0	● 20 40 ▲ 100 200	60 300	80 400 : : : : : -	VI				
	260.2	Silty clay, trace of gravel			1 - 2 -				SS	01	4		
1 -	259.8	Brown, firm, DTPL SANDY SILTY CLAY (CL-ML)	-	•	3 -	<u> </u>			ss	02	7		
		Trace of gravel, some rootlets Brown, stiff, moist			4 - 5 -	 							
2		SANDY LEAN CLAY (CL)	 		6 -			-	SS	03	21		
1 -		trace of gravel Brown, very stiff, DTPL			7 - 8 -			_	ss	04	24		
	257.8	brown to grey, hard, moist	- 1/2	•	9 - 10-				/\ 55		2 '		
3 -		orown to grey, nard, moist			11 -				\sqrt{ss}	05	38		
- 1 - 1					12 - 13 -	-		- -					
- " :					14-								
 - -					15- 16-	 			ss	06	37		
5 -			1	1	17-								
-				Ţ	18 - 19 -	† : : : : : : : : : : : - : : : : : : : : : : :							
6 -	254.6	grey, stiff, moist	- 1/		20 -	<u></u>			SS	07	10		
					21 - 22 -] 			/\ 55	07	10		
7 -			1		23 - 24 -								
7 -	253.1	grey, hard, moist	- //		25-				V aa	00	22		
8 -		g.cj,			26 - 27 -	 		-	SS	08	32		
=					28-			=					
9 -					29 - 30 -	<u> </u>							
9 -	251.1	Developed to the developed of the DCC	1/2		31-			=	SS	09	31		
10-		Borehole terminated at 9.6 m BGS Borehole dry and open			32 - 33 -	1							
					34 - 35 -	1							
11					36-								
					37 - 38 -	1							
12-					39 -	4							
	LABOF	ATORY ANALYSES:											

C	s	tantec	В	OR	REH N: 48	[O] 847 4	JE 74 I	RE (E: 596	C OR	D						B	H4	7-2	23		SI	neet 1 of 1
LO		N 12489 Dixie Road														PRC DAT	ΓUM	[_		21624777 NAD83
D.	ATES: B	ORING 02/06/2023				WAI		LEVEL			1 181		A 18 1									
(ш) нт ада	(m) ELEVATION	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEPTH (ft)	TYPE	NUMBER	RECOVERY (mm) 7d TCR(%) / SCR(%) 7g	N-VALUE OR RQD(%)	W	ATE	ER CO	50 + ONTE	:NT & E PEN	1 ATTEI	AR S 00 RBER TION TEST	G LIM	150 HITS T, BLC	W W WS/0	IP	200 W	WL REMARKS & GRAIN SIZE DISTRIBUTION
0 -	258.8		10/		0			A S		ļ	10	20) 3	0 4	0 5	50 6	50	70	80	90	100	(0/)
-	258.5	TOPSOIL Silty clay, trace of gravel Brown, firm, moist			1 -	SS	01	<u>250</u> 460	4	•												_
1 -	257.6	SANDY SILTY CLAY (CL-ML) Trace of gravel, some rootlets Brown, hard, moist			3 -	SS	02	300 460	43						•							
-		SANDY LEAN CLAY (CL) trace of gravel brown, very stiff, moist			5 -	V _{SS}	03	<u>410</u> 460	22													-
2 -	256.5				7 -		03	460														
-		brown to grey, hard, moist			9 -	SS	04	<u>460</u> 460	39													_
3 -					10 - 11 -	ss	05	<u>460</u> 460	38					•								
4 -					12 - 13 -																	_
-	254.2				14- 15-				_	-												_
5 -		grey, stiff to very stiff, moist			16 - 17 -	SS	06	<u>460</u> 460	12		•											_
-					18-																	-
6 -					20-	W _{SS}	07	<u>460</u> 460	15			•										_
- - -	252.2	Borehole terminated at 6.55 m BGS Borehole dry and open	<u>/•/</u>	1	21 -	/\	"	460														
7 -		200000 a.j and open			23 -																	_
- - - -					25 - 26 -																	_
8 -			1	1	<u> </u>	1	1	1]	Ren	oulc	led V		Pa Γest, l		Pa	.111	.:1:	:1	1

\mathcal{C}	s	tantec	B	OR	REF N: 4	HOI 847 8	LE 42 I	RE (E: 596	C OR	D							Βŀ	I/I	M	W۷	1 8-	-23	heet 1 of 1
	LIENT _	-														P	ROJ	EC	ΤN	o.	_	12	21624777
		N <u>12489 Dixie Road</u>														Ι	DATU	UM					NAD83
D.	ATES: E	BORING <u>02/13/2023</u>				WAT	TER I	LEVEL	03/10	0/20	23					Т	PC l	ELE	VA	TIO	N _		
			F	닖			SAI	MPLES	;	ι	JNC			ED :	SHI		RST	RE			(kPa		_
(m)	NO NO		J	LEVEL	Œ			E%			+		50	_		100)	-	150	0	+	20	0
Ť	(m)	STRATA DESCRIPTION	₹	N	돈		l let	(F, K)	⊒%								.==0			V	V_P	W	$W_{ m L}$
ОЕРТН (m)	ELEVATION (m)		STRATA PLOT	WATER	DEPTH (TYPE	NUMBER	S.	AFL GD								BERG ON T) NVS//	∕0.3m	▼	REMARKS
	ш		S	≥		-	Ž		N-VALUE OR RQD(%)								EST,					•	& GRAIN SIZE
	265.4							RECOVERY (mm) TCR(%) / SCR(%)	0	1	10	20	3	0	40	50	60) ′	70	80	90	10	DISTRIBUTION (%) GR SA SI CL
0 -	265.1	TOPSOIL	×1.1/		0	Mss	01	250 460	4		Tiii								Tiii				GR SA SI CE
=		Silty clay, trace of gravel	M	•	1 - 2 -		01	460	'	-													_
_		Brown, soft, DTPL			3 -	W ~ ~	0.0	360	10	1												<u> </u>	
1 -	264.2	SANDY SILTY CLAY (CL-ML)	W		4 -	N SS	02	460	19		1:::	•											
-		Trace of gravel, some rootlets Brown, very stiff, moist	V)]	5 -	<u> </u>																E	-
-		SANDY LEAN CLAY (CL)			6 -	SS	03	<u>430</u> 460	23			•	•										
2 -	263.1	trace of gravel	<u>/-/</u>	_	7 -																	-	1
-		brown, very stiff, moist	\ <u>'</u>		8 -	$\int \int ds$	04	<u>460</u> 460	31					•								<u> </u>	
3 -		hard to very stiff, brown, moist			9 -			400			:::												
3 -			/./		10-	Mss	05	<u>460</u> 460	28				•										
_			6/		11 - 12 -		03	460					: : T									<u> </u>	-
4 -					13 -	<u> </u>																	
4			1/	1	14-	<u> </u>																=	
=	260.9		1	1	15-			160															
5 -		very stiff, grey, moist	//		16-	∬SS	06	$\frac{460}{460}$	16)											
3 -			//	1	17-	П																	
-			1/-	,	18-	1																	
6 -					19-	 																	
-			//	1	20-	ss	07	410	27				•									<u> </u>	
					21 - 22 -		"	460														E	-
7 -				1	23 -	<u> </u>																	
, <u> </u>			//		24 -																	<u> </u>	
-	257.8		1/		25-	$\downarrow \downarrow$		460															-
8 -		Trace to some gravel	//		26-	\\ SS	08	<u>460</u> 460	21		1:::	•											
-			/•		27 -	╂┃																::::E	
-			1/	1	28-	 																<u> </u>	
9 -			1//		29 -	1																	_
-	2550		,/,	1	30 - 31 -	M_{SS}	09	<u>430</u> 460	26	1			•										
-	255.8	Borehole terminated at 9.6 m BGS	[1	32 -	1	-	460			1:::												
10		Borehole dry and open			33 -	1					:::	: :							1:::				-
-					34 -																	:::: <u> </u>	
-					35-	1																	
11-					36-	1					 	: <u>:</u> : :							-				-
					37-	†																iiii‡	
-					38-	1																E	
12-			1		39 -	11					IE:	ا ا	V-	ne T	`ac+	₽D-	:::I		HH	H	H	H	
																	st, k	Pa					
										_							Tes		Pa				

	s	tantec ^{MO}	Nľ	ГО	RI N: 48	NG WELL 847 842 E: 596 1	RECORI	0		BH	/MW48	Sheet 1 of 1 -23
L		QuadReal Properties N 12489 Dixie Road BORING 02/13/2023				WATER LEVEL				DATU		121624777 NAD83
		ONLY STATES	<u></u>						MPL			
DEРТН (m)	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEPTH (ft)	VAPO CONCENTI • %LEL • 20 40		TYPE	NUMBER	N-VALUE		WELL
0 -	265.4 265.1		7.74		0	▲ 100 200	300 400	$\sqrt{ \mathbf{s} }$	01	4		
- - - - -	203.1	Silty clay, trace of gravel Brown, soft, DTPL			1 - 2 -	-		88	01	4		
1 -	264.2	Trace of gravel, some rootlets			3 - 4 -	† · · · · · · · · · · · · · · · · · · ·		SS	02	19		
2		Brown, very stiff, moist SANDY LEAN CLAY (CL)			5 - 6 -	T		SS	03	23		
	263.1	trace of gravel	1//	Ţ	7 - 8 - 9 -			SS	04	31		
3 -		hard to very stiff, brown, moist	/,		10- 11-		<u> </u>	X ss	05	28		
4 -					12 - 13 -			/\				
4	260.9				14- 15-							
5		very stiff, grey, moist			16- 17-	_		SS	06	16		
-					18- 19-							
6 -					20 -	_		SS	07	27		
7 -					22 - 23 -			/\				
	257.8				24 - 25 -	-						
8 -		Trace to some gravel			26 - 27 -			SS	08	21		
= =			//	•	28 - 29 -							
- 9 -	255.8				30 - 31 -	_		SS	09	26		
10-		Borehole terminated at 9.6 m BGS Borehole dry and open			32 - 33 -						1 1 2	
					34 - 35 -	4						
11-					36- 37-	1						
12-					38 - 39 -	1						
14	LABOR	RATORY ANALYSES:										

C	s	tantec	B	OF	REH N: 4	[O] 847 5	LE 13 I	RE (E: 596	COR 626	RD)]	ΒF	I/N	ΛV	V4	9-2	23	eet 1 of 1
C.	LIENT _	QuadReal Properties														P]	ROJ	EC7	ΓΝο	0.	_	12	1624777
		N 12489 Dixie Road														D	ATU	JM	-				NAD83
D	ATES: E	BORING 02/06/2023				WA	ΓER I	LEVEL	03/1	0/2	02.	3				T	PC I	ELE	VA]	ΓΙΟΝ	1		
			F	H			SAI	MPLES	3		UN	IDR	AIN	ED:				REI			(Pa)		
DEPTH (m)	<u>N</u>		PLC	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Œ			Ê%		1			50			100		+	150)	+	200	
Η̈́	(m)	STRATA DESCRIPTION	¥	낊	DEPTH (ft)		er.	(F) (S)	三%	١.,	/A T	-0.0	ONT	ENT 8	A T.T.			1.18.40	· 	W	, v	N .	$W_{\rm L}$
DEF	ELEVATION (m)		STRATA PLOT	WATER LEVEL	DE	TYPE	NUMBER	ER/	.VALUE RQD(%)					E PEI						ך WS/0	.3m	▼	REMARKS
	"		S)	≥		<u> </u>	Ž	RECOVERY (mm) TCR(%) / SCR(%)	N-7-N-0					NETF								•	& GRAIN SIZE DISTRIBUTION
	260.6							H H F			10	2	0 3	30	40	50	60) 7	0	80	90	100	(%) GR SA SI C
0 -		TOPSOIL	711/	•	1 -	M_{SS}	01	<u>250</u> 460	4	•												::-	
-	260.0	Silty clay, trace of gravel	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	1	2 -	<u> </u>		460		-												÷	
1 -		Brown, firm, DTPL			3 -	Vec	02	410	19	tii													
1	259.4	SANDY SILTY CLAY (CL-ML) Trace of gravel, some rootlets			4 -	Nas	02	<u>410</u> 460	19	- :::													
-		Brown, very stiff, moist	ľ./.		5 -	M ~~		460	2.5	-													
2		SANDY LEAN CLAY (CL)	//		6 -	SS	03	<u>460</u> 460	26				•									::: [
-	258.3	trace of gravel	<u>//</u> ,	1	7 -	₩		2.00		-													
-		light brown, very stiff, moist	\ <u>\</u> //.	1	8 -	∬SS	04	<u>360</u> 460	36	::				•								::[
3 -		brown, hard, moist	//	1	10-					<u> </u>						#							
			1	1	11-	\sqrt{ss}	05	$\frac{410}{460}$	45						•							:: E	
-			1/		12-			100														::F	
4 -			,,	1	13-					111						#		<u> </u>				::: [::: [
	256.0		1	1	14-	1																	
-	230.0	very stiff, grey, moist	//	•	15-	V _{SS}	06	380 460	19	1::												::F	
5 -					16- 17-		00	460	17	 												::: -	
			//	1	18-					::													
			! //		19-																		
6 -	254.5	hard, trace to some gravel, moist	1		20-	M ~~		430	40	 												:::=	
		nara, trace to some graver, moist	//		21 -	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	07	460	40						•								
_ :			//		22 -	†																	
7 -			1]	23 - 24 -	<u> </u>				::												::: -	
-					25-																		
8 -			•/>		26-	s	08	300 460	50							•							
				1	27 -																	::-	
			/ /	ע	28-																		
9 -					29-	1				::				:::								::: ‡	
			//		30-	V _{SS}	09	100 460	50													::::	
-	251.0	Borehole terminated at 9.6 m BGS	//	1	31 -		07	460	30	::: :::						H							
10		Borehole dry and open			33 -					1				:::		#		<u> </u>				:::[
=		· •			34-																		
					35-	1																:::F	
11-					36-	1								:::		#		<u>: : : :</u> : : : :	:::			:: - :: F	
					37-	†																::E	
					38-	<u> </u>																::F	
12-				1	39-	<u> </u>	1	<u> </u>		-		Fiel	d Va	ne T	ect	⊹∐. kP∘	:::L	<u> </u>	Liii	:1:::	:1!!	:: :	
										;				me 1 ded V				Pa					
														Penet					a				

	s	tantec ^{MO}	NI'	ГО	RI N: 48	NG WELL 847 513 E: 596 6	RECORI	D		BH	/MW49-	Sheet 1 of 1 -23
Lo		QuadReal Properties N12489 Dixie Road ORING 02/06/2023				WATER LEVEL				DATUI		121624777 NAD83
		<u> </u>	Ŀ						AMPL			
DEРТН (m)	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEPTH (ft)	VAPO CONCENTE • %LEL • 20 40		TYPE	NUMBER	N-VALUE		VELL
0 -	260.6	TOPSOIL	<u> </u>		0		300 400	Maa	0.1	4		
	260.0	~'' 1 2 1	<u>'</u> <u>'</u>		1 - 2 -		_	SS	01	4		
1 -	259.4	Trace of gravel, some rootlets		•	3 - 4 -			SS	02	19		
2		Brown, very stiff, moist SANDY LEAN CLAY (CL)			5 - 6 -		-	SS	03	26		
	258.3	trace of gravel light brown, very stiff, moist			8 -			SS	04	36	H	
3 -		brown, hard, moist			9 -		=	X ss	05	45	11	
					11-		<u>-</u>	N 33	03	73	H	
4 -	256.0				13 - 14 -		-					
5		very stiff, grey, moist			15- 16- 17-		-	SS	06	19	11	
					18- 19-							
6 -	254.5	hard, trace to some gravel, moist			20-	<u> </u>	<u> </u>	ss	07	40		
[21 - 22 - 23 -		-		0,			
[24 - 25 -		-					
8					26 - 27 -		=	\sqrt{SS}	08	50		
= = = = = = = = = = = = = = = = = = =				Ţ	28 - 29 -							
9 -	251.0				30 - 31 -			SS	09	50		
10-	251.0	Borehole terminated at 9.6 m BGS Borehole dry and open			32 -			/\			<u> </u>	
		Bosonoic dry and open			33 - 34 -							
11					35 - 36 -							
					37 - 38 - 39 -		<u> </u>					
12-	LABOR	ATORY ANALYSES:		<u> </u>	3 9-	<u> </u>	: <u> </u>	1	[I		

C	s	tantec	В	OF	REH N: 48	[O] 847 8	E 44 I	RE (E: 596	COR	D						B	H5	0-2	23		Sh	eet 1 of 1
	LIENT _ OCATIO	QuadReal Properties N _ 12489 Dixie Road														PRO DAT			Э.			1624777 NAD83
		BORING 02/10/2023				WAT	ER I	LEVEL											TION			
	-		Ľ	П			SAI	MPLES	;	ı	JND			D S	HEA		TRE			Pa)		
ОЕРТН (m)	ELEVATION (m)		STRATA PLOT	WATER LEVEL	DEPTH (ft)			(%) (%)		-	-	5	0	-	10	00	-	150)		200	
ΞΡΤŀ	EVA (m)	STRATA DESCRIPTION	&TA	TER.	EPT	Щ	3ER	₹ (n SCR	.VALUE RQD(%)	W	ATER	CON	NTEI	NT &	ATTE	RBER	G LIM	ITS	₩	· V	V >	<i>W</i> _L − 1
	ᆸ		STF	WA.		TYPE	NUMBER	OVEF (%)/	I-VAI RRG						ETRA ATION					3m	V	REMARKS & GRAIN SIZE
-	265.8						_	RECOVERY (mm) TCR(%) / SCR(%)	A. O.R.		10				0 5					90	100	DISTRIBUTION (%) GR SA SI CL
0 -	265.4	TOPSOIL	<u>\''</u>		1 -	SS	01	<u>200</u> 460	3	•	T											GR SA SI CL
-		Silty clay, trace of gravel Brown, firm, DTPL			2 -			400													::F	
1 =		SANDY SILTY CLAY (CL-ML)			3 -	SS	02	<u>300</u> 460	20			•										
=	264.2	Trace of gravel, some rootlets Brown, very stiff, moist			4 - 5 -																	
3		SANDY LEAN CLAY (CL)			6 -	SS	03	<u>410</u> 460	19			•										
2 -		trace of gravel	//		7 -			260														
=		brown, very stiff, moist	//		8 -	\ SS	04	<u>360</u> 460	25			•	•								::E	
3 -					10-	M		410													:: <u> -</u> :: <u> -</u>	
-						SS	05	<u>410</u> 460	27				•									
4 -			//		12 - 13 -]																
• -	261.2		/-/		14-																::: <u> </u>	
-	261.2	very stiff, grey, moist	/•/		15-	V SS	06	380 460	21													
5 -					16 - 17 -			460														
=			/•/		18-																	
6 -					19-	<u> </u>																
-			•//		20 -	ss	07	<u>460</u> 460	15		•										:: F	
-			/,		22 -			100													E	
7 -					23 - 24 -	<u> </u>																
-	258.1		//		25-	<u> </u>		460													::E	
8 =		hard, grey, moist	//		26-	SS	08	<u>460</u> 460	32					•								
-			/		27 - 28 -	<u> </u>																
_			//		29 -																::: <u> </u>	
9 -			//,		30-	Mee	09	<u>460</u> 460	40													
-	256.1	Borehole terminated at 9.6 m	/_		31 -	NSS	09	460	40					:::: <u>`</u>								
10		Borehole dry and open			33 -																::: <u>F</u>	
					34-																E	
11-					35 - 36 -																	
4.4					37-																:: <u> </u>	
=					38-																ijĦ	
12-					39-	†					Fi	eld`	∷∐ Var	ne Te	st, kl	liiii Pa	Liiii	Hiii	.1:::	1111	:: <u></u>	
										0	R	emo	uld	ed V	ane T	est, l						
										Δ	Po	ocke	t Pe	enetr	omet	er Te	st, kl	Pa				

(S	tantec	B	OF	REF N: 4	IOI 847 6	_E 20_1	RE (E: 595	COR 838	D)						В	H	/M	W	51	-23	heet 1 of 1
CI	LIENT _	QuadReal Properties														_	PRO)JE(СТ	No.		12	21624777
LO	OCATIO	N <u>12489 Dixie Road</u>														_	DA	ΓUΝ	Л	_			NAD83
D	ATES: B	BORING <u>01/25/2023</u>				WA	ER I	LEVEL	03/10	0/2	023	3				_	TPC	EL	EV.	ATIO	ON .		
			Ë	Ш			SAI	MPLES	3		UN	DR	AIN	۱ED	Sŀ			TR			(kP		
DЕРТН (m)	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEPTH (ft)	TYPE	NUMBER	RECOVERY (mm) TCR(%) / SCR(%)	N-VALUE OR RQD(%)	D	YNA	MIC	COI	NE PI	ENE	TTEF		TES	MITS ST, BI	3	W _P	20 W → ▼	W _L REMARKS & GRAIN SIZE DISTRIBUTION
0 -	266.6				_			FR 기타			10	2	0	30	40	5	0	60	70	80	9	0 10	
V -	266.1	TOPSOIL Silty clay, trace of gravel Brown, firm, DTPL		× •	1 - 2 -	SS	01	<u>200</u> 610	3	•													
1 -	265.4	SANDY SILTY CLAY (CL-ML) Trace of gravel, some rootlets		Ţ	3 - 4 -	ss	02	150 610	9		•												6 24 33 37
2		Brown, stiff, moist SANDY LEAN CLAY (CL) some silt seams, some gravel			5 - 6 - 7 -	ss	03	300 610	17			•											
	263.5	Very stiff, brown, moist			8 - 9 -	ss	04	<u>460</u> 610	28					•									
3 -	203.3	some to trace silt, brown to grey, very stiff moist	·/		10 - 11 - 12 -	SS	05	<u>460</u> 610	22				•										
4					13 - 14 -																		
5	261.4				15- 16-	SS	06	<u>460</u> 610	28	-				•									·
	2011.	some gravel very stiff, grey, moist			17- 18- 19-																		
6 -						SS	07	<u>51</u> 610	17			•											- - - - -
7					22 - 23 - 24 -																		
8 -					25 - 26 -	SS	08	<u>410</u> 610	16			•											
111111					27 - 28 - 29 -					-													
9 -	257.4	Some silt pockets hard, grey, moist			30 - 31 -	SS	09	150 610	50	-													·
10	256.8	Borehole terminated at 9.75 m Borehole dry and open	//		32 33 -	1		010															
11					34 - 35 - 36 -	 																	: <u> </u> : :
11-					37 - 38 -																		
12					39-	1				-			1.7		:: T								:
										1]	Ren	nou		Va	ne T	est,						
										4	△]	Poc	ket	Pene	etro	mete	er Te	est, l	кРа				

	s	tantec ^{MO}	Nľ	ГО	RI N: 48	N 847	G 620	W]	EI : 5	L 95 8	R 38	E(CC	R	D			ВН	/MW51	Sheet 1 of 1 -23
L		QuadReal Properties N 12489 Dixie Road BORING 01/25/2023															_	DATU		121624777 NAD83
			F	닒												SA	MPL	.ES		
DEРТН (m)	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEPTH (ft)			CON %LE	ICE	NTF		ION				TYPE	NUMBER	N-VALUE		WELL
0 -	266.6	TOPSOIL			0	À	. 10	00	200) (300	4	00		<u> </u>					
	266.1	Silty clay, trace of gravel Brown, firm, DTPL			1 - 2 -										A	SS	01	3	-	
1 -	265.4	SANDY SILTY CLAY (CL-ML) Trace of gravel, some rootlets		Ţ	3 - 4 -	1:									A	SS	02	9		
2 -		Brown, stiff, moist SANDY LEAN CLAY (CL) some silt seams, some gravel			5 - 6 - 7 -										lacksquare	SS	03	17		
2 -		Very stiff, brown, moist			8 - 9 -											SS	04	28		
	263.5	some to trace silt, brown to grey, very stiff moist		•	10 - 11 - 12 - 13 -											SS	05	22		
4 -					14- 15- 16-											SS	06	28		
5 - 5 -	261.4	some gravel very stiff, grey, moist			17 - 18 - 19 -										=/\ - - -					
- 7 -					20 - 21 - 22 - 23 -											SS	07	17		
- ' : - :					24 - 25 -											-				
8 -					26 - 27 -	 									A	SS	08	16		
9 -	257.4				28 - 29 - 30 -															
	256.8		•/		31 - 32										\mathbb{I}	SS	09	50		
10-		Borehole terminated at 9.75 m Borehole dry and open			33 - 34 - 35 -															
- - -11-					36- 36- 37-															
12-					38- 39-															
12	LABOF	RATORY ANALYSES:																		

	s	tantec	В	OF	REH N: 4	IOI 847 5	LE 24 E	RE (E: 596	COR	D]	Βŀ	15	2-2	23		Sł	neet 1 of 1
LO		N 12489 Dixie Road																IEC UM	ΓΝ.	0.	_	12	1624777 NAD83
D	ATES: E	ORING 01/24/2023				WA	ΓER I	EVEL		1													
DEРТН (m)	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEPTH (ft)			MPLES (mm) (%) (%)		-	10	NDF +	50 +		SHE	100 +		RE +	NG1 15()	+	1) 200 — W) W _L
_ABQ	ELEV.	0110 t.71 (22001 til 11011	STRAT	WATER	DEP.	TYPE	NUMBER	RECOVERY (mm) TCR(%) / SCR(%)	N-VALUE OR RQD(%)	D	ΥN	AMIC	CO	NE PE	& ATT ENETF RATIO	RATIO	ON T	EST,	BLO	WS/C	•	♡ ▼	REMARKS & GRAIN SIZE DISTRIBUTION
0 -	265.6				0			REG		ļ	10	2	20	30	40	50	60	0 7	70	80	90	100	GR SA SI CL
-	265.1	TOPSOIL Clayey silt, organics, loose, moist	7, 7, 7, 7,			SS	SS-01	610 610	5	•													
1 -		SANDY SILTY CLAY (CL-ML) Trace of gravel, some rootlets Brown, stiff, moist			3 -		SS-02	610	13														_
-	264.0				4 -	55	35-02	610 610	13													-	3 36 34 27
2 -		SANDY LEAN CLAY (CL) Very stiff, brown, moist		•	6 -	SS	\$S-03	8 <u>610</u> 610	23				•										300 31 27
3 -					8 - 9 - 10-	SS	\$S-04	4 <u>410</u> 610	25				•										
						SS	SS-05	<u>410</u> 610	26				•										7 30 32 31
4 -	261.0				13-																		
5 -	260.4				15- 16- 17-	SS	SS-06	5 <u>410</u> 610	13			•											
		grey, very stiff, moist			18 - 19 -																		
6 -					20 -	SS	\$S-07	7 <u>410</u> 610	16			•											_
7 -	258.9	Borehole terminated at 6.7 m Borehole dry and open		-	22 -	/		010		-													
- - - - -					24-																		
8 -					26-	<u> </u>				- C					Γest,								
															Vane trom				Pa				

C	s	tantec	В	OR	REH N: 48	[O] 847 7	_E 27]	RE (E: 595	C OR 974	D						В	H5	3-	23	3	5	Shee	t 1 of 1
LO		N 12489 Dixie Road														PRO DA	ΓUM	Í	_	-		N	24777 (AD83
D.	ATES: E	ORING 01/24/2023			 I	WAI		LEVEL							— SHE/								
DEPTH (m)	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEPTH (ft)	TYPE	NUMBER	RECOVERY (mm) TO TCR(%) / SCR(%)	N-VALUE OR RQD(%)	W.A	ATEI	R CO	50 + ONTE	:NT & E PEN		00 H RBER	G LIM	15 	0 ows	W _P	W 0	, (REMARKS & GRAIN SIZE
0 -	265.8				0			등 등 기	0		10	20) 3	0 4	10 5	50	60	70	80	9	0 1	00 GF	STRIBUTION (%) R SA SI CL
-	265.2	TOPSOIL Clay, some to trace of silt Brown, loose, moist	\(\frac{1}{2}\)		1 -	SS	01	180 610	3	•													
1 -	264.2	SANDY SILTY CLAY (CL-ML) Trace of gravel, some rootlets Brown, very stiff, moist			3 - 4 -	SS	02	<u>460</u> 610	17			•											
2 -	264.2	SANDY LEAN CLAY (CL) Trace of silt, some gravel brown, firm, moist			5 - 6 - 7 -	ss	03	<u>460</u> 610	19			•											
3 -	263.0	Hard, brown			8 - 9 - 10-	ss	04	<u>460</u> 610	7)												
-					11 - 12 -	SS	05	<u>460</u> 610	36	-				•									
4 -	261.2	Very stiff			13 - 14 - 15 -	M																	
5 -					16 - 17 - 18 -	SS	06	<u>460</u> 610	33					•									
6 -					19 - 20 -	M																	
-	250.1				21 -	SS	07	<u>460</u> 610	25				•										
7 -	259.1	Borehole terminated at 6.7 m Borehole dry and open			22 - 23 - 24 -																		
8 -					25 - 26 -																		
											F	Rem	oul	led V	est, k 'ane ' 'omet	Γest,		Pa					

	s	tantec	B	OF	REF N: 4	IOI 847 5	LE 348 1	RE (E: 596	COR	D						В	H5	4-	23	3	s	heet 1 of 1
Lo		N 12489 Dixie Road													_ :	DA'	DJEC FUM	[_			NAD83
D.	ATES: E	ORING 01/27/2023				WA.		MPLES		Ι ι		RAII										
DEPTH (m)	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEPTH (ft)	TYPE	NUMBER	RECOVERY (mm) TCR(%) / SCR(%)	N-VALUE OR RQD(%)	WA DY	TER	5() CONTIC CO	TENT	· & A	TTER	00 RBER	G LIM	15 IITS	50 Sows	W _P 6/0.3r	20 W	W _L REMARKS & GRAIN SIZE DISTRIBUTION
0 -	264.8		\•/•/•		0			A S	0		10	20	30	40) 5	0 (60	70	80	9	0 10	0 GR SA SI C
-		TOPSOIL Silty Clay, brown, moist	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		1 -	SS	01	300 460	4	•												-
-	264.2	SANDY SILTY CLAY (CL-ML) Trace of gravel, some rootlets Brown, hard, moist			2 -					-												
1 -		Brown, nard , moist			3 -	SS	02	360 460	33													
- - -	263.3	SANDY LEAN CLAY (CL) Some gravel		•	5 -		02	460	24													-
2 -	262.7	Hard, brown, moist			6 -	SS	03	460 460	34					P: :								-
- - -		very stiff, brown, moisr			8 -	SS	04	<u>460</u> 460	27													-
-	262.1	Hard, brown, moist		•	9 -			400														-
3 -					10 -	SS	05	<u>460</u> 460	38					•								-
_	261.3	Borehole terminated at 3.6 m	9/9	-																		
4 -		Borehole dry and open			12 -																	-
-					14-																	-
-					15-																	
5 -					10						Fi	eld V	/ane	Ter	at LP	Pa						
											Re	ena v emou ocket	lded	Va	ne T	est,		Pa				

	s	tantec	В	OF	REF N: 4	HOI 847 5	E 66 I	RE (E: 596	C OR	D						В	H/	M	W	55.	-23	heet 1 of 1	
Cl	LIENT _	QuadReal Properties														PRO	OJEO	CT 1	No.		12	21624777	
		N <u>12489 Dixie Road</u>														DA						NAD83	
D.	ATES: E	BORING 01/24/2023				WA	ER I	LEVEL	03/10	0/20	23				_	TPC	EL	EVA	ATI(ON _			
							SAI	MPLES		l	JND	RAII	NED	SI	HE/	AR S	TRI	ENG	HT	(kPa	a)		_
(m)	NO		[2]	LEVEL	Œ		T					50)			00			50	`	20	0	
Ŧ	/ATI	STRATA DESCRIPTION	Ι¥	X	Ĕ		<u>~</u>	更 (9 (9	ш%			1				ı				W_P	W	$W_{ m L}$	
DЕРТН (m)	ELEVATION (m)		STRATA PLOT	WATER	ОЕРТН (TYPE	NUMBER	SK	-VALUE RQD(%)							RBER				├ 5/0.3m	→	REMARKS	
	ш		လ	🔰		←		 % %	N-7-V							TES					•	GRAIN SIZE	Ε
	265.8							RECOVERY (mm) TCR(%) / SCR(%)		1	0	20	30	40) 5	50	60	70	80	90	10	DISTRIBUTIO (%) GR SA SI (CI
0 -		TOPSOIL	· 11/4		1 -	V _{CC}	01		3	•													<u> </u>
-	265.2	Silty clay	\(\frac{1}{\sqrt{1}}\)	1_	2 -	N 33	01	<u>250</u> 610	3													· -	
1 -		Brown, loose, moist SANDY SILTY CLAY (CL-ML)		\▼	3 -	W		300	2.5														
1 -	2642	Trace of gravel, some rootlets			4 -	∦ss	02	$\frac{300}{610}$	26			•) 									· ·	
-	264.3	Brown, very stiff, moist		7	5 -	\mathbf{M}		410		1												<u> </u>	
2 -	263.6	SANDY LEAN CLAY (CL)	! /		6 -	SS	03	$\frac{410}{610}$	22			•										:	
	203.0	with silty sand	1/5	•	7 -	\vdash																	
-		Very stiff, brown, DTPL			8 -	SS	04	$\frac{460}{610}$	29				•									9 29 33	29
3 -	262.7	some gravel very stiff, DTPL	1/2		10-										: : : : : : : :							: :-	
-		Hard	//		11-	$\ \mathbf{s}\ $	05	<u>460</u> 610	38					•									
-			/	1	12 -	H	_	010		-													
4 -			•	1	13-	1																<u>: </u> :	
-	261.2				14- 15-																	:	
_ =		Brown to grey, Very stiff to hard	1		16-	\mathbb{I}_{SS}	06	<u>460</u> 610	29														
5 -					17-		-	610		-													
=			/•/		18-	$\left\{ \right\}$																<u>. </u>	
6 -	259.7		•//		19-	1																:	
0	239.1	LEAN CLAY (CL)	1		20-	W _{aa}	0.7	460	20														
-		Some to trace of silt, some gravel			21 - 22 -	SS	07	<u>460</u> 610	28													<u>: </u>	
7 -		Very stiff, grey, DTPL		1	23 -	<u> </u>																:	
-					24-	41																	
-	258.2	hard, grey, moist	1		25-	\forall		460		1													
8 -		nara, grey, moist			26-	√SS	08	460 610	31				•									: :	
=					27 - 28 -																		
-					29-]																•	
9 -				1	30-	<u> </u>				- : : : :					<u> </u>							<u>. </u> .	
-	2.5.0				31-	$\frac{1}{2}$ ss	09	<u>460</u> 610	39					•								:	
10	256.0	Borehole terminated at 9.75 m	//	1	32	H		010															_
10-		Borehole dry and open			33-	1																	
-					34 - 35 -]																· ·	
11-					36-																		
-					37-	4																	
-					38-	41																	
12					39-	1																:	_
												eld V				Pa Γest,	₽D^						
																er To							

	s	tantec ^{MO}	NI	ГО	RI N: 4	NG WELL RECORD 847 566 E: 596 186	Sheet 1 of 1 BH/MW55-23
Lo	LIENT _ OCATIO ATES: E	•				WATER LEVEL 03/10/2023	PROJECT No. 121624777 DATUM NAD83 TPC ELEVATION
			Ŀ	ير		SAMPL	
DEРТН (m)	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEPTH (ft)	VAPOUR CONCENTRATIONS • %LEL ppm	WELL CONSTRUCTION
- 0 -	265.8	TOPSOIL	Z/./4.		0	● 20 40 60 80 ▲ 100 200 300 400	
	265.2	G'11 1		Y	1 - 2 -	SS 01	3
1 -	264.3	SANDY SILTY CLAY (CL-ML) Trace of gravel, some rootlets			3 - 4 -	SS 02	26
1 -	263.6	Brown, very stiff, moist			5 - 6 - 7 -	SS 03	22
-		Very stiff, brown, DTPL some gravel			8 - 9 -	SS 04	29
3 -	262.7	very stiff, DTPL Hard	١,		10 - 11 -	SS 05	38
4					12 - 13 - 14 -		
5	261.2	Brown to grey, Very stiff to hard			15- 16-	SS 06	29
					17 - 18 -		
6 -	259.7				19 - 20 -	†	<u></u>
		LEAN CLAY (CL) Some to trace of silt, some gravel Very stiff, grey, DTPL			21 - 22 -	SS 07	28
7 -	258.2				23 -		
8 -	230.2	hard, grey, moist			25 - 26 - 27 -	SS 08	31
9 -					28 - 29 -		
- 9 - -	2560				30 - 31 -	SS 09	39
10-	256.0	Borehole terminated at 9.75 m Borehole dry and open	<u> </u>		32 33 -	1	, 1 r.:
11-		_			34 - 35 -		
11-					36 - 37 - 38 -		
12-					39-		
	LABOF	RATORY ANALYSES:					

C	s	tantec	В	OR	REH N: 48	[O] 347 5	LE 52 I	RE (E: 595	C OR	RD)						В	Н:	56	-2	3		Sh	eet 1 of 1
LO		QuadReal Properties N12489 Dixie Road ORING01/24/2023						LEVEL								_	PRO DAT	ΓUN	Л	_				1624777 NAD83
			A PLOT	LEVEL	Н (ft)		SAI	MPLES			UI	NDI +	RAII		D S	HEA			EN		H (k	Pa)	200)
DEРТН (m)	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEРТН (ft)	TYPE	NUMBER	RECOVERY (mm) TCR(%) / SCR(%)	N-VALUE OR RQD(%)	\ [OYN.	AMI	C CO RD P	NE PENE	PENI ETRA	ATTEI ETRA ATION	TION TES	TES T, BL	T, B .OW	LOV S/0.	3m	3m	W →	W _L -I REMARKS & GRAIN SIZE DISTRIBUTION
0 -	267.0		7/1/4		0			분인			10) 2	20	30	4	0 5	0	60	70	8	30	90	100	(%) GR SA SI CL
- - -	266.6	TOPSOIL Silty clay, with rootlets Brown, firm, moist	// · · · · · · · · · · · · · · · · · ·		1 -	SS	01	460 460	7		•													
-		SANDY SILTY CLAY (CL-ML) Trace of gravel, some rootlets brown, very stiff, moist			2 -																			
1 -					3 -	SS	02	460 460	22	-			•											
- - -	265.5	SANDY LEAN CLAY (CL) very stiff, brown, moist			5 -	90	03	460	22	-														
2 -					6 - 7 -	55	03	460 460																
-	264.7	some gravel Very stiff to hard, brown, moist		•	8 -	SS	04	460 460	22				•											
3 -					9 -																			
-	263.5				11 -	SS	05	460 460	30					•										
- - -		Borehole terminated at 3.6 m below ground surface Borehole dry and open			12-																			
4 -					13-																			
- - -					14-																			
- - -					16-																			
5 -									_			Re	mou	ılde	d Va	st, kl ane l	est,							

	s	tantec	B	OR	REH N: 48	[O] 847 6	LE 23 I	RE (E: 595	C OR	RD							Βŀ	1 5	7-	23		Sł	neet 1 of 1
L		N 12489 Dixie Road														Ι	OAT	UM			_		1624777 NAD83
D	ATES: E	BORING <u>01/25/2023</u>			_	WA']		LEVEL		1					011								
DEPTH (m)	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEPTH (ft)	TYPE	NUMBER	RECOVERY (mm) TO TCR(%) / SCR(%)	N-VALUE OR RQD(%)	W	ATE	R C	50 + ONT	ENT &	L & AT	100	BERG	LIM	15 		IP	200 W	W _L REMARKS & GRAIN SIZE
0 -	266.8				_		_	TCR	20												90	100	DISTRIBUTION (%) GR SA SI C
0 -	266.3	brown, soft, moist			1 - 2 -		01	460 460	3	•													
1 -	265.2	SANDY SILTY CLAY (CL-ML) brown, very stiff, moist			3 - 4 -	SS	02	<u>460</u> 460	20			•											-
2	203.2	SANDY LEAN CLAY (CL) some gravel brown, very stiff, moist			5 - 6 - 7 -	ss	03	<u>460</u> 460	23				•										3 22 38 37
3 -		erown, very swin, moise			8 - 9 - 10-	ss	04	<u>460</u> 460	24				•										
-					11 - 12 -	ss	05	<u>460</u> 460	28	-													_
4 -	262.2				13 - 14 - 15 -					-													-
5		brown to grey, stiff, moist			16 - 17 - 18 -	SS	06	460 460	15														-
6 -	260.7	very stiff to hard, grey, moist			19 - 20 -	ss	07	<u>460</u> 460	24	-			•										_
7 -					22 - 23 -			460															-
8 -	250.5				24 - 25 - 26 -	SS	08	<u>460</u> 460	29					•									-
9 -	258.5	with smooth gravel hard, grey, DTPL			27 - 28 - 29 -	 																	-
1	257.2				30 - 31 -	ss	09	<u>460</u> 460	50	-						•							-
10-		Borehole terminated at 9.6 m below ground surface Borehole dry and open			32 - 33 - 34 - 35 - 36 -																		
11-					37 - 38 - 39 -																		
12]	Ren	noul	ane T ded ' Pene	Van	e Te	st, k		Pa				

C	s	tantec	В	OR	REH N: 48	[O] 847 7	LE 74 I	RE (E: 596	COR	RD)					В	Н:	58	5-2	3	s	heet 1 of 1
LO	LIENT _	N <u>12489 Dixie Road</u>													_	PRO DA			No.		12	21624777 NAD83
D	ATES: E	ORING 02/13/2023				WAT	TER I	LEVEL														
DEPTH (m)	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DЕРТН (ft)	TYPE	NUMBER	RECOVERY (mm) TO TCR(%) / SCR(%)	N-VALUE OR RQD(%)		WATI	ER CC	50 + ONTE	NT &	1 ATTE	00 RBEF		MITS	150 + s	W _P	20 W	W _L ── I REMARKS
			0	>		-	⊋	ECO\ CR(%	N-V OR F	\$	STAN	IDARE									0 10	& GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
0 -	264.8	TOPSOIL	×1.1/2		0	П		&⊢		+::	10	20		0 4	0 :	50 	60	70 	8	0 9	0 10	^U GR SÀ ŚI CL
-		Silty Clay, with rootlets Brown, very stiff, DTPL	1/2 × 2/2		1 -	SS	01	<u>200</u> 460	3	•												
-	264.2	SANDY SILTY CLAY (CL-ML) brown, firm, moist	· <u>·</u> ··		2 -																	- - - -
1 -					3 -	SS	02	<u>250</u> 460	9													
	263.2				5 -																	
-		SANDY LEAN CLAY (CL) Some gravel brown, very stiff, moist			6 -	SS	03	360 460	16			•										
2 -					7 -																	
-	262.3	Very stiff to hard, brown, moist			8 - 9 -	SS	04	<u>460</u> 460	28				•									
3 -					10-					-												
-	261.3				11 -	SS	05	460 460	30													
-		Borehole terminated at 3.6 m below ground surface Borehole dry and open			12 -																	
4 -					13 -																	
- - -					14-																	
- - -					15-																	
5 -					16-																	
												Field Rem					kPa	l				
										1						ter To						

C	s	tantec	В	OR	REH N: 4	IOI 847 6	_E 33	RE(E: 596	C OR	D						В	Н	59)-2	.3		Sh	eet 1 of 1
LO		N 12489 Dixie Road						LEVEL								PRO	TU	M	_				1624777 NAD83
D.	ATES: E	ORING 02/01/2023				WAI		MPLES							HE/								
DEPTH (m)	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEPTH (ft)	TYPE	NUMBER	nm) {(%)}	N-VALUE OR RQD(%)	WA DY	TER NAM	R CO	50 H NTE	NT &		00 + RBEF	RG L	IMIT	150 + s BLOV	W _P	V	200	W _L REMARKS & GRAIN SIZE
0 -	265.5				0	<u> </u>		A R	0]	10	20	30	0 4	10	50	60	70) 8	80	90	100	DISTRIBUTION (%) GR SA SI CL
-	264.9	TOPSOIL Silty Clay Brown, moist	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\			ss	01	250 610	5	•													
1 -		LEAN CLAY WITH SAND(CL) trace of gravel brown, very stiff, moist			3 -	SS	02	<u>200</u> 610	20			•											
2 -	264.0	SANDY LEAN CLAY (CL) Brown, very stiff, DTPL		•		SS	03	300 610	26				•										2 20 35 43
	262.8	 Hard			8 - 9 -	SS	04	<u>460</u> 610	29				•									-	
3 -	262.0	Very stiff		•	10 - 11 - 12 -	SS	05	300 610	53							•							
4 -		· ·			13-																		
5 -	261.0	Some silt, some sand Brown to grey		•		SS	06	<u>460</u> 610	25				•										
					17 - 18 - 19 -																		
6 -	259.0				20 - 21 -	SS	07	<u>460</u> 610	22			•											
7 -		Borehole terminated at 6.7 m Borehole dry and open			22 -	V \																	
- - - -					24 - 25 - 26 -																		
8 -			1	1		<u> </u>	<u> </u>	l	I		R	emo	ould	ed V	est, k ane '	Test,			<u>::::</u>	1::::		::1_	<u> </u>

C	s	tantec	В	OR	REH N: 48	[O] 847 7	LE 74 1	RE (E: 596	COR	D					BI	H60)-2	3	S	Sheet 1 of 1
LO		N 12489 Dixie Road													PRO. Dat	UM	_			21624777 NAD83
D.	ATES: E	BORING <u>02/10/2023</u>	1			WAT		LEVEL		i										
DEPTH (m)	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEPTH (ft)	TYPE	NUMBER	RECOVERY (mm) TO TCR(%) / SCR(%)	VALUE RQD(%)	WA DYI	TER	50 + CONT	ENT &	10 H ATTER	00 RBERG	LIMITEST,	150 	W _P	W 0	W _L REMARKS & GRAIN SIZE
	266.2						Z	RECC TCR(AN N		anda .0		ENETRA 30 4						00 10	DISTRIBUTION
0 -	265.9	TOPSOIL Silty Clay Brown, moist	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	•		SS	01	230 610	4	•										GR SA SI CL
1 -		SANDY SILTY CLAY (CL-ML) brown, , very stiff moist			3 -	SS	02	360 610	23			•								-
-	264.7	SANDY LEAN CLAY (CL) brown, very stiff to hard, moist			5 - 6 -	SS	02		25											-
2 -		orown, very stiff to hard, moist			7 -	55	03	<u>460</u> 610												-
3 -					9 -	SS	04	250 610	24			•								-
-	262.7	brown to grey, very stiff, moist				SS	05	460 610	39				•							-
4 -					13 -															-
		transition to grey at 4.5 m			15-	SS	06	360 610	16											
5 -					17 - 18 -			610												
6 -	260.1				19 - 20 -															
-	259.7	stiff, grey, moist Borehole terminated at 6.7 m	<u>//</u>		21 -	SS	07	<u>460</u> 610	11		•									
7 -		Borehole dry and open			22 -															
-					24 - 25 -															-
8 -			<u> </u>		26-	<u> </u>	<u> </u>				Re	moul	ane Te ded V Penetr	ane T	est, k		'a	<u>Liiii</u>		<u> </u>

(S	tantec	B	OF	REF N: 4	HOI 847 6	LE 39 1	RE (E: 596	C OR	D					BF	I/N	1W	61-	·23	neet 1 of 1
C	LIENT _	QuadReal Properties													PROJ	ECT	No.		12	1624777
		N12489 Dixie Road													DAT		_			NAD83
D.	ATES: E	BORING <u>02/10/2023</u>				WA	TER I	LEVEL	03/10	0/20	23				TPC I	ELEV	/ATIO	ON _		
			—				SAI	MPLES	<u> </u>	ι	JND	RAI	NED :	SHEA	AR ST	REN	IGTH	(kPa	a)	
Œ	N O		[2	NE NE	Œ		T		, 			50)		00		150	`.	200)
Ŧ	MATE (m.)	STRATA DESCRIPTION	ΙĀ	N	 DEPTH (ft)		<u>~</u>	m (2)	ш%		·	'			ı		1	$W_{\!P}$	w	$W_{ m L}$
DEРТН (m)	ELEVATION (m)		STRATA PLOT	WATER LEVEL		TYPE	NUMBER	ERY /S(-VALUE RQD(%)						RBERG TION T				→ ▼	REMARKS
	Ш		လ	>		←		 % %	N-7-N-0						I TEST,				•	& GRAIN SIZE DISTRIBUTION
_	263.9							RECOVERY (mm) TCR(%) / SCR(%)		1	10	20	30	40 5	50 60) 7(0 80	90	100	GR SA SI CL
0 -		TOPSOIL	11/4		1 -	M_{SS}	01	150 460	3	•									iii E	CIT C/T CI CE
=	263.3	Silty clay, trace of gravel	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	1	$\begin{vmatrix} 1 \\ 2 \end{vmatrix}$		-	460											:::E	1
1 -		Brown, firm, DTPL SANDY SILTY CLAY (CL-ML)			3 -	W _{SS}	02	<u>360</u> 460	28											
1	262.4	brown, very stiff, moist			4 -	MSS	02	460	20										iii ‡	
=	262.4	SANDY LEAN CLAY (CL)		7	5 -	Mag	02	460	22										E	1
2 -		trace of gravel			6 -	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	03	<u>460</u> 460	22											
		brown, very stiff, moist	/		7 -	₩		160											iii E	
-			//		8 -	SS	04	$\frac{460}{460}$	25										iii þ	
3 -	260.9		1	•	10-	\coprod					1:::									1
		Some gravel Hard, brown to grey, moist			11 -	∬ss	05	$\frac{430}{460}$	33				•						iii F	
=		Thard, brown to grey, moist	//	1	12 -	\prod													:::E	
4			·	1	13-	 														1
_	259.3		1/	•	14- 15-	1														
=		With silty sand seams	1	7	16-	\sqrt{ss}	06	380 460	20			•							E	
5 -		Very stiff to stiff, grey, moist			17-	H		400											::: :	1
-			1.		18-														iii E	
			6/	<u> </u>	19-	1													::: : ‡	
6 -				, <u>▼</u>	20-	ss	07	430	13										:::E	
=			/		21 - 22 -	133	07	460	13										E	_
7 -			1		23]				:::::	::::								::: :	
			//	•	24 -														i i E	
=	256.3	Hard to very stiff, grey, moist		•	25-	\forall		460											### #	1
8 -		That to very sum, grey, moist		•	26-	∦SS	08	<u>460</u> 460	35		: : : : : : : :		•						::: F	1
=			/		27-	†													iii E	
-			//		28 - 29 -]													:::E	
9 -					30-	<u> </u>					1:::									1
_	254.3		•	•	31 -	∭ss	09	<u>460</u> 460	27			•							::: :	
		Borehole terminated at 9.6 m			32 -														i i i E	
10-		Borehole dry and open			33 -	1														1
=					34 -	†													E	1
11					35- 36-]													::: :	
11-					37-]]
=					38-														::: 	-
12					39-	$\ \cdot\ $::::									:::F	
													ane T							
															Γest, k er Tes		a			
	I									ıΔ	r	~ NCL	1 CHEL	TOTHEL	CI 1 CS	i, Kr				

C	s	tantec ^M	ONI	ГО	RI N: 48	NG WELI 847 639 E: 596	RE0	CORI)		ВН	/MW61	Sheet 1 of 1 -23
LO	LIENT _ OCATIO ATES: E	· · · · · · · · · · · · · · · · · · ·				WATER LEVEL					DATU		121624777 NAD83
			TC							AMPL			
DEРТН (m)	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEPTH (ft)	CONCENT • %LEL	RATIO ▲ p	opm	TYPE	NUMBER	N-VALUE		WELL
_ 0 -	263.9	TOPSOIL	*// ² .		0	● 20 40 ▲ 100 200	60 300 4	80 400 : : : : -	\/		_		
1 -	263.3	Silty clay, trace of gravel	//· · ·		1 - 2 -	_			SS	01	3		
1 -		Brown, firm, DTPL SANDY SILTY CLAY (CL-M			3 -	-		-	SS	02	28		
	262.4				4 - 5 -	7 : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :							
2 -		SANDY LEAN CLAY (CL) trace of gravel	•//		6 - 7 -	<u></u>			SS	03	22		
[brown, very stiff, moist			8 -	1		=	SS	04	25		
3 -	260.9		_ //		9 - 10-								
<u> </u>		Some gravel Hard, brown to grey, moist	//		11-			-	SS	05	33		
4 -			/,		12 - 13 -	<u> </u>		=					
	259.3				14- 15-								
5 -		With silty sand seams Very stiff to stiff, grey, moist			16-			-	\sqrt{ss}	06	20		
- -		, , , ,			17 - 18 -	 							
6 -					19-	_							
"			•/>	¥	20 - 21 -	 		=	SS	07	13		
					22 -			-					
7 -	2562		•//		23 - 24 -			-					
	256.3	Hard to very stiff, grey, moist	· – //		25 - 26 -				SS	08	35		
8 -					27 -			=	/\				
					28 - 29 -								
9 -			,		30-				SS	09	27		
-	254.3	Borehole terminated at 9.6 m			31 -	-			\	09	21	<u> </u>	
10-		Borehole dry and open			33 - 34 -	1							
= =					35-	7 : : : : : : : : : : : - : : : : : : : : : : :							
11-					36 - 37 -								
<u> </u>					38-	1							
12-	LABOF	RATORY ANALYSES:			39-	<u> </u>	<u>: ::::</u>	1:::: =	<u> </u>				
		•											

C	s	tantec	B	OR	REF N: 4	[O] 847 5	E 74 I	RE(E: 596	COR 518	D					BF	162	2-2	23		Sh	eet 1 of 1
	LIENT _	QuadReal Properties N12489 Dixie Road													PROJ DAT		Γ No _				1624777 NAD83
D.	ATES: B	ORING <u>02/07/2023</u>				WAT	ER I	LEVEL							TPC I	ELE	VAT	ION	_		
(m	NC		LOT	SVEL	(£)		SAI	MPLES	;	l	JND	RAIN 50	NED S		R ST	REI	NGT 150			200	
(ш) нтчэс	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	ФЕРТН (#)	TYPE	NUMBER	RECOVERY (mm) TCR(%) / SCR(%)	N-VALUE OR RQD(%)	DY	NAMI	C CO	ENT & NE PEN ENETR	IETRA	TION T	EST,	BLOV		—ë	• [W _L -I REMARKS & GRAIN SIZE DISTRIBUTION
0 -	261.2				0			A P	0	1	10	20	30 4	0 5	0 60	0 7	70 8	30	90	100	(%) GR SA SI CL
- - - -	260.8	TOPSOIL Silty clay, trace of gravel Brown, firm, DTPL	1/2 N		1 -	ss	01	250 610	3	•											
1 -		SANDY SILTY CLAY (CL-ML) brown, very stiff, moist			3 -	SS	02	360 610	19			•									
-	259.7	SANDY LEAN CLAY (CL)			4 - 5 -			610													
2 -	258.9	trace of gravel brown, very stiff, DTPL			6 -	SS	03	<u>460</u> 610	23			•									
	236.9	brown to grey, hard, moist			8 -	SS	04	<u>460</u> 610	31				•								
3 -					10-	SS	05	460	22												
-					12 -	55	03	<u>460</u> 610	32	-											
4 -					13 - 14 -																
5 -	256.6	Hard augering grey, hard, moist		•	15- 16-	SS	06	<u>410</u> 610	50												
-					17- 18-	/\															
6 -					19-																
	254.7	D. 1.1.4.655			20 -	SS	07	<u>410</u> 610	45					•							
7 -		Borehole terminated at 6.55 m Borehole dry and open			22 -																
- - - -					24 - 25 -																
8 -					26-															:[-]	
0 -											Re	mou	ane To lded V	ane T	est, k						

C	s	tantec	В	OR	REH N: 48	OI 347 6	E 13 I	RE (E: 596	COR	ZD							BI	1 6	3-2	23	3	;	She	et 1 of 1
LO		QuadReal Properties N12489 Dixie Road ORING02/07/2023														D	ΑТ	JEC UM)NI		1	624777 NAD83
		ORING 02/01/2023	TO.	VEL		WAI		MPLES	-	1					SHI		R ST			ТН		a)	00	
(ш) НІВО	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEPTH (ft)	TYPE	NUMBER	RECOVERY (mm) TCR(%) / SCR(%)	N-VALUE OR RQD(%)	D	YNA	MIC	ONT	IE PE	& ATI	TERE RATI	BERG	EST	TS BLC	ws		W o	7	W _L REMARKS & GRAIN SIZE DISTRIBUTION
0 -	262.1		7.7		0			A S		ļ	10	2	0	30	40	50	6	0 ′	70	80	9	0 1	00	(%) BR SA SI CL
- - -	261.8	TOPSOIL Silty Clay Brown, moist SANDY SILTY CLAY (CL-ML) brown, very stiff, moist				SS	01	<u>76</u> 610	4	•													-	
-		, ·,			2 -					-														
1 -					3 -	SS	02	<u>200</u> 610	21				•										-	
-	260.6	SANDY LEAN CLAY (CL)			5 -																			
2 -		Some to trace gravel Hard, brown, moist			6 -	SS	03	<u>200</u> 610	34					•										
-	259.9	With silty sand seams hard, brown, moist			8 -					-													tttt	
- - -					9 -	SS	04	360 610	30					•										
3 -					10-	SS	05	380 610	41	-														
-	258.6	Borehole terminated at 3.6 m below	\ <u>'</u> -/					010																
- - 4 -		ground surface Borehole dry and open			12 -																			
-					14-																			
- - -					15-																			
5 -					16-					-			1 7 7			15								
]	Ren	noul	ded	Γest, Vand trom	e Te	st, k		Pa					

	S	tantec	B	OF	REF N: 4	HOI 847 8	LE 68 1	RE (E: 596	C OR	D					BI	H/N	ИW	64	-23	neet 1 of 1
CI	LIENT _	QuadReal Properties													PRO	JEC	Γ Νο.		12	1624777
		N <u>12489 Dixie Road</u>													DAT		_			NAD83
D	ATES: B	ORING <u>02/06/2023</u>				WA	ΓER I	LEVEL	03/10	0/20	23				TPC	ELE	VATI	ON _		
			—				SA	MPLES		ι	JND	RAIN	IED S	SHEA	AR ST	ΓRΕΙ	NGTH	l (kP	a)	
(m)	O		[2]	 	(£							50			00	,	150	` ——	20	0
Ť	(M)	STRATA DESCRIPTION	Ι¥	N	DEРТН (ft)		<u>~</u>	m 28,	ш%		·	'			1		'	W_P	W	$W_{\rm L}$
DЕРТН (m)	ELEVATION (m)		STRATA PLOT	WATER LEVEL		TYPE	NUMBER	ERY /S(-VALUE RQD(%)						RBER(ITS BLOW	S/0.3m	~ ` ▼	REMARKS
	ш		လ	>		←	ş	 % %	N-7-N-0	1							WS/0.3		•	& GRAIN SIZE DISTRIBUTION
•	265.2							RECOVERY (mm) TCR(%) / SCR(%)		1	10	20	30 4	40 :	50 6	0 7	70 8	0 90) 100	GR SA SI CL
0 -		TOPSOIL	×1.14	1	1 -	M_{SS}	01	<u>250</u> 460	3	•										CIT OF CI OF
-	264.6	Silty clay, some gravel	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	1	$\begin{vmatrix} 1 \\ 2 \end{vmatrix}$			460		-									:::: :	1
1 -		Brown SANDY SILTY CLAY (CL-ML)			3 -	W _{SS}	02	<u>360</u> 460	21											
1	264.0	brown, very stiff, moist		▼	4 -	Maa	02	460	21	-									:::::	
-		SANDY LEAN CLAY (CL)	//		5 -	Mag	02	380	21	1									E	
2 -	263.2	Some silty sand	//		6 -	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	03	380 460	21			•								1
		very stiff, brown, moist			7 -	₩		220		-									::::E	
-		silt seams, some gravel Very stiff, brown, moist	//	1	8 -	SS	04	330 460	24			•							:::: :	
3 -	262.2		<u>//</u>	•	10-	\coprod					1:::									
-		Silty Sand Seams very stiff, brown to grey, moist	//		11 -	∬ss	05	$\frac{410}{460}$	26			•							: : : : :	
-		very sum, erewir to grey, moist	//	1	12 -	$\ \cdot \ $::::=	
4 -			•	•	13-	1														
-	260.7		<u>'//</u>		14 - 15 -															
_ =		Some gravel	1/		16-	\sqrt{ss}	06	<u>460</u> 460	22			•							:::: <u>E</u>	
5 -		grey, very stiff, moist			17-			100												
-			/ •/	•	18-	 													E E	_
6			6/		19-	1														
			/ /		20-	ss	07	460	21											
-					21 - 22 -		"	460	21											_
7 -			//	•	23															
-			/-/	•	24-														::::E	
-	257.6	hard, grey, moist	1.		25-	Mag	00	250	20	1									iiii E	
8 -			1/		26	122	08	<u>250</u> 460	38	- : : : :	1:::		•	1						
-			/		27 - 28 -]													::::E	
-				•	29	<u> </u>													:::: <u> </u>	
9 -					30-	\bigvee		460		-										
-	255.6		1/2		31-	SS	09	460 460	59											
10		Borehole terminated at 9.6 m			32	1														
10-		Borehole dry and open			33	†														
-					34 - 35 -]														1
11-					36-	41					:::								iiii F	1
-					37														:::: <u> </u>	
4					38-	 													::::F	1
12-					39-	11_					<u> </u>		<u> </u>	<u> </u>					<u>:::::</u> E	
													ane T ded V		Ра Гest, k	Ра				
										_ _					ter Te		Pa			

C	s	tantec ^{MO}	Νľ	ГО	RI N: 48	NG WELI 847 868 E: 596	L RI 5 467	ECORI	D		ВН	/MW64	Sheet 1 of 1 -23
LO		QuadReal Properties N 12489 Dixie Road SORING 02/06/2023				WATER LEVEL					DATU		121624777 NAD83
			Ļ							SAMPI			
DEРТН (m)	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEPTH (ft)	CONCEN	•	ppm	TYPE	NUMBER	N-VALUE		WELL
- 0 -	265.2	TOPSOIL	7/1/2·		0	● 20 40 ▲ 100 200	60 300	80 400	N/I				
	264.6	GTI: 1 1	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		1 - 2 -	-			SS	5 01	3	- -	
1 -	264.0	SANDY SILTY CLAY (CL-ML) brown, very stiff, moist		Ţ	3 - 4 -				X SS	S 02	21		
2 -	263.2	SANDY LEAN CLAY (CL) Some silty sand very stiff, brown, moist		•	5 - 6 - 7 -			- - - -	SS	S 03	21		
- - - - -		silt seams, some gravel Very stiff, brown, moist			8 - 9 -	_ -		=	SS	S 04	24		
3 -	262.2	Silty Sand Seams very stiff, brown to grey, moist			10 - 11 -	<u>-</u>		=	SS	S 05	26		
4 -					12 - 13 - 14 -			- - - -				II	
5 -	260.7	Some gravel grey, very stiff, moist			15- 16-	- - -			SS	5 06	22		
					17- 18- 19-			=					
6 -					20 - 21 -	<u>-</u>		-	SS	S 07	21		
7 -					22 - 23 - 24 -	-		=					
8 -	257.6	hard, grey, moist			25 - 26 -				SS	S 08	38		
-					27 - 28 - 29 -	-							
- 9 <u></u>	255.6				30 - 31 -				X SS	S 09	59		
10-		Borehole terminated at 9.6 m Borehole dry and open			32 - 33 -	-		=				1.1	
11-					34 - 35 - 36 -			-					
117					37 - 38 -	-							
12-	LABOR	ATORY ANALYSES:			39-	<u> </u>	<u>:: ::</u>	:: :::: =					

C	s	tantec	В	OR	REH N: 48	[OI 847 7	LE 43 I	RE(E: 596	COR	RD)						В	Н	65	5-2	23		S	neet 1 of 1
LO		QuadReal Properties N12489 Dixie Road ORING 02/06/2023						LEVEL								_	PRO DA	TU	M	-		_		21624777 NAD83
D.		OZ/00/2025	 -			WAI		MPLES		l					D S	HEA	AR S		REN	IGT	Ή (
DEPTH (m)	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEРТН (ft)	TYPE	NUMBER	RECOVERY (mm) TCR(%) / SCR(%)	N-VALUE OR RQD(%)	V C)YN	AMI	CON	ONE	PEN	1 ATTE IETRA ATION	MOITA	I TES	.IMIT ST, I	BLO\	Wj F		20 ₩ •	W _L REMARKS & GRAIN SIZE DISTRIBUTION
0 -	264.3	TOPSOIL	3/1/4	1	0			A S		1	10) ::::	20	30) 4	0 :	50 T:::	60	70	0	80	90	10	GR SA SI CL
-	263.8	Silty clay, trace of gravel Brown, firm, DTPL	1/2 1/2 1/2 1/2 1/2 1/2		1 -	SS	01	200 460	3	•														
-		SANDY SILTY CLAY (CL-ML) brown, very stiff, moist		•	2 -																		-	-
1 - -	263.1				3 -	SS	02	<u>430</u> 460	19				•											_
-		SANDY LEAN CLAY (CL) trace of gravel brown, very stiff, moist			5 -	V				-														_
2 -					6 -	SS	03	460 460	24				•											-
- - -					7 - 8 -	V				-														
-	261.5	brown, hard, moist		•	9 -	SS	04	460 460	24	-														_
3 -					10-	V																		-
-	260.8				11-	SS	05	460 460	34						•									
-	200.0	Borehole terminated at 3.5 m Borehole dry and open	7 /		12 -																			
4 -					13-																			
- - -					14-																			
- - -					15-																			
5 -							<u> </u>			1		Re	mo	uld	ed V	est, k	Гest,			<u>: : : :</u>	1::		:::1	1

C	S	tantec	В	OF	REH N: 4	[O] 847 7	E 62 I	RE (E: 596	C OR	D						В	Ηđ	66-	-2	3		Sh	eet 1 of 1
	LIENT _	•														PRO			No.				.624777
		N <u>12489 Dixie Road</u> BORING <u>02/07/2023</u>				WAT	ER I	LEVEL								DA'			— 1ТА	ON			NAD83
			Ŀ					MPLES				RAI	NE		HEA	AR S		ENC	3TH		Ра)		
1 (m)	TION (PLO	LEVE	(<u>f</u>			(%)		-	+	50	0	-	1	00	-	1	50 	-+	•	200	
ОЕРТН (m)	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEРТН (ft)	Щ	BER	RY (n SCR	.VALUE RQD(%)	WA	TER	CON	TEN	IT & A	ATTE	RBER	G LIN	итѕ		W _P	- K	/) —г	<i>W</i> _L →
Ω	山		STE	× A		TYPE	NUMBER	RECOVERY (mm) TCR(%) / SCR(%)	N-VA OR RG							TION TES					lm	•	REMARKS & GRAIN SIZE
0 -	264.2		1		0				0	1	.0	20	30	4	0 5	50	60	70	8	0 9	90	100	DISTRIBUTION (%) GR SA SI CL
	263.9	TOPSOIL Silty clay, trace of gravel	/// /:∴	•	1 -	SS	01	300 460	5	•													
-		Brown, firm, DTPL			3 -	W ~~		410	- 10														
1 -	262.7	SANDY SILTY CLAY (CL-ML) brown, very stiff, moist			4 -	SS	02	410 460	18													: -	
-	262.7	SANDY LEAN CLAY (CL)	•		5 - 6 -	SS	03	<u>360</u> 460	19			•											
2 -		trace of gravel brown, very stiff, DTPL			7 -			460														: F	
=		, , ,	·/		8 -	SS	04	<u>460</u> 460	29				•									i F	
3 =	261.2	brown, hard, moist			10-	M		410															
-		orown, nard, moist			11 - 12 -	SS	05	<u>410</u> 460	39					•									
4			/,/		13-	<u> </u>																: [-	
-	259.7				14-	<u> </u>																	
5 -		Very stiff, grey, moist			15- 16-	SS	06	<u>460</u> 460	16		•												
3 -			//		17-																		
-					18- 19-																		
6 -					20 -	SS	07	380	26														
=					21 - 22 -	NSS	07	380 460	20														
7					23 -	<u> </u>																: F : F	
=	256.6		//		24 - 25 -	<u> </u>																:F	
8 -		hard augering	//		26-	SS	08	<u>460</u> 460	38					•								: -	
=		hard, grey, moist	//		27 - 28 -																		
9 -		nard, grey, moist			29-	•																	
-	254.6		,		30 -	ss	09	<u>460</u> 460	52							•							
1.	234.0	Borehole terminated at 9.6 m	//	1	32 -			400													: : :	: E	
10-		Borehole dry and open			33 -																		
-					35-																		
11-					36 - 37 -																: : :	: -	
-					38-	 																	
12-					39-	!					E:	14 Y	Jo-	ο Т-	st, k	Do.						<u>:</u> F	
										 -	Re	mou	ılde	d V	ane]	Γest,							
										Δ	Po	cket	l Pe	netr	omet	er Te	est, k	(Pa					

C	s	tantec	В	OR	REH N: 48	[O] 847 6	E 53 I	RE (E: 596	COR	D					BI	H6′	7-2	:3		Sh	eet 1 of 1
LO		N 12489 Dixie Road												_	PRO DAT	UM	_				1624777 NAD83
D.	ATES: E	ORING 02/07/2023				WAI		LEVEL													
DEPTH (m)	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEPTH (ft)	TYPE	NUMBER	RECOVERY (mm) 7d TCR(%) / SCR(%) 7g	N-VALUE OR RQD(%)	WA DY	TER (50 CONTI	ENT &	ATTER	00 RBERG	H B LIMI TEST,	150 TS BLOV	W _P		V	W _L -I REMARKS & GRAIN SIZE
0 -	262.8		1		0			A ST	0	1	10 2	20 3	30 4	10 5	0 6	0 7	0 8	30 9	90 1	100	DISTRIBUTION (%) GR SA SI CL
-	262.2	TOPSOIL Silty clay, trace of gravel Brown, loose, DTPL	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		1 -	SS	01	<u>250</u> 460	4	•											
1-		SANDY SILTY CLAY (CL-ML) brown, very stiff, moist			3 - 4 -	SS	02	410 460	18)									
2 -	261.3	SANDY LEAN CLAY (CL) trace of gravel brown, very stiff, DTPL			5 - 6 - 7 -	ss	03	410 460	27			•									
					8 -	SS	04	<u>460</u> 460	20			•									5 27 36 32
3 -					10 - 11 - 12 -	SS	05	460 460	27			•									
4 -					13-																
5 -	258.2 257.8				15- 16-	ss	06	360 460	14		•										
		Very stiff, grey, moist			17- 18- 19-																
6 -	256.3				20 - 21 -	SS	07	430 460	25			•									
7 -		Borehole terminated at 6.5 m Borehole dry and open			22 -																
					24 - 25 - 26 -																
8 -						. '		•			Re	moul	ded V	est, kI ane T	est, k		'a	••••	1	. 1	

	s	tantec	В	OR	REH	IOI 847 7	LE 17 E	RE (E: 596	COR	D						-	ΒI	H 6	8-	23	3	S	heet 1 of 1
L		N <u>12489 Dixie Road</u>															RO. DAT			No.		12	21624777 NAD83
D.	ATES: E	ORING <u>02/10/2023</u>				WA	TER I	LEVEL								T	PC	ELF	EVA	ΛTΙ	ON		
I (m)	NOI		PLOT	-EVEL	H (ft)		SAN	MPLES			UN	IDR	50	IED	SHI	100		ΓRE —		T⊦ 50	l (kF	Pa) 20	00
(ш) НІВО	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEРТН (ft)	TYPE	NUMBER	RECOVERY (mm) TCR(%) / SCR(%)	N-VALUE OR RQD(%)	D	YNA	MIC	CON	ENT (NET	RATI	ON T	ΓEST	, BL		W _P ⊢ S/0.3i m	W n ▼	W _L REMARKS & GRAIN SIZE DISTRIBUTION
0 -	264.3				0			A ST	0		10	2	0 :	30	40	50	6	0	70	80) 9	0 10	(0/)
- - -	263.9	TOPSOIL Silty clay, trace of gravel Brown, firm, DTPL			1 -	ss	01	<u>200</u> 460	4	•													-
1 -		SANDY SILTY CLAY (CL-ML) brown, very stiff, moist			3 -	SS	02	410 460	19			•											- - - -
- - - -	262.8	SANDY LEAN CLAY (CL)			5 -	M _{GG}	02	410	20														-
2 -		trace of gravel brown, very stiff, DTPL			6 - 7 -	SS	03	410 460	29														-
- - -					8 - 9 -	ss	04	<u>460</u> 460	22				•:										-
3 -	261.3	brown to grey, hard, moist		•	10 - 11 -	ss	05	<u>410</u> 460	32					•									- - - -
4 -					12 - 13 -																		- - - -
T .	259.8				14-	-																	-
5 -		grey, hard, moist			16-	ss	06	<u>460</u> 460	34					•									- - - - -
- - -					17- 18-	- -																	- - - -
6 -					19 - 20 -	 		260															-
- - -	257.8	Borehole terminated at 6.55	/-/		21 -	SS	07	<u>360</u> 460	50							•							-
7 -					23 -																		- <u> </u> - -
- - - -					25 - 26 -																		-
8 -				<u> </u>	<u> </u>	<u> </u>	<u> </u>	I			3	Ren	noul	ane T ded T	Van	e Te	st, k		ilii Pa	::1	::::	1:::::	1

C	s	tantec	В	OR	REH N: 4	IOI 847 5	LE 30 1	RE (E: 596	COR	D						В	He	69	-2	3		Sh	eet 1 of 1
LO		QuadReal Properties N12489 Dixie Road BORING02/06/2023													_	PRO DA	TUN	M	_				1624777 NAD83
D.	ATES: E	ORING 02/00/2023	Ι.			WAI		MPLES			JNI	DRAI	INF	D.S									
DEPTH (m)	ELEVATION (m)	STRATA DESCRIPTION	STRATA PLOT	WATER LEVEL	DEPTH (ft)	TYPE	NUMBER	RECOVERY (mm)	N-VALUE OR RQD(%)	W.	ATEF	5 CON	0 ITEN ONE	IT & /	1 ATTEI ETRA	00 RBEF	G LII	1 MITS ST, BI	150 +	W _P	W	200	W _L →I REMARKS & GRAIN SIZE DISTRIBUTION
0 -	263.5		31.14		0			AF			10	20	30	4	0 5	50	60	70	8	0 9	90	100	(%) GR SA SI CL
-	262.9		7.7.		1 -	ss	01	<u>250</u> 460	3	•													
1 -	262.3	SANDY SILTY CLAY (CL-ML) brown, very stiff, moist			3 -	SS	02	200 460	20			•											
- - - -		SANDY LEAN CLAY (CL) trace of gravel brown, very stiff, moist			5 -	SS	03	300 460	26				•										
2 -					7 -			460	20														
-					9 -	SS	04	<u>460</u> 460	29	-			•										
3 -	260.5	hard, brown to grey, moist			10 - 11 -	SS	05	300 460	53							•							
4 -		Hard to very stiff, grey, moist			12 -	-																-	
-					14- 15-	-																	
5 -					16- 17-	ss	06	<u>460</u> 460	25			•	•										
					18-	-																	
6 -					19 -	M _{GG}	0.7	460	22														
_	257.0	D 114 ' 11655	1/2		21-	SS	07	460 460	22			•											
7 -		Borehole terminated at 6.55			22 -	-																-	
-					24 - 25 -	 -																	
8 -					26-																	-	
											R	ield \ emo ocke	ulde	d V	ane T	Γest,							

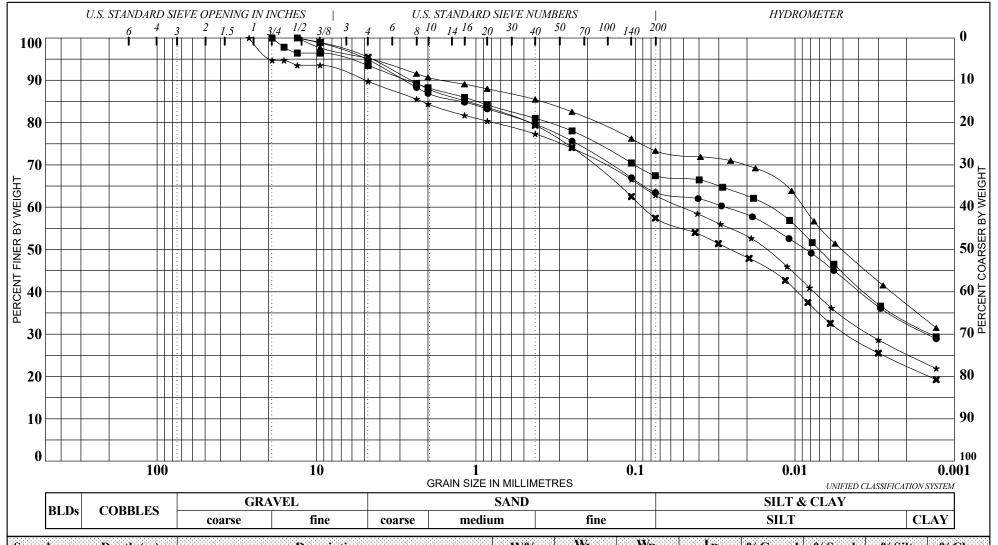
GEOTECHNICAL INVESTIGATION AND DESIGN REPORT - 12489 AND 12861 DIXIE ROAD, CALEDON, ONTARIO

Appendix D

APPENDIX D

D.1 LABORATORY TEST RESULTS - GRADATION, ATTERBERG LIMITS AND CORROSIVITY TESTING





								1			
Sa	mple	Depth (m)	Description	W%	$W_{\mathbf{L}}$	WP	Ip	%Gravel	%Sand	%Silt	%Clay
•	BH-15-23	1.8	SANDY LEAN CLAY(CL)		26	13	13	5	31	31	33
	BH-18-23	3.3	SANDY LEAN CLAY(CL)					6	27	34	33
	BH-19-23	3.3	LEAN CLAY with SAND(CL)		27	13	14	5	22	36	37
*	BH-20-23	3.3	SANDY LEAN CLAY(CL)					10	28	37	25
X	BH-21-23	6.3	SANDY LEAN CLAY(CL)		18	10	8	5	38	35	22



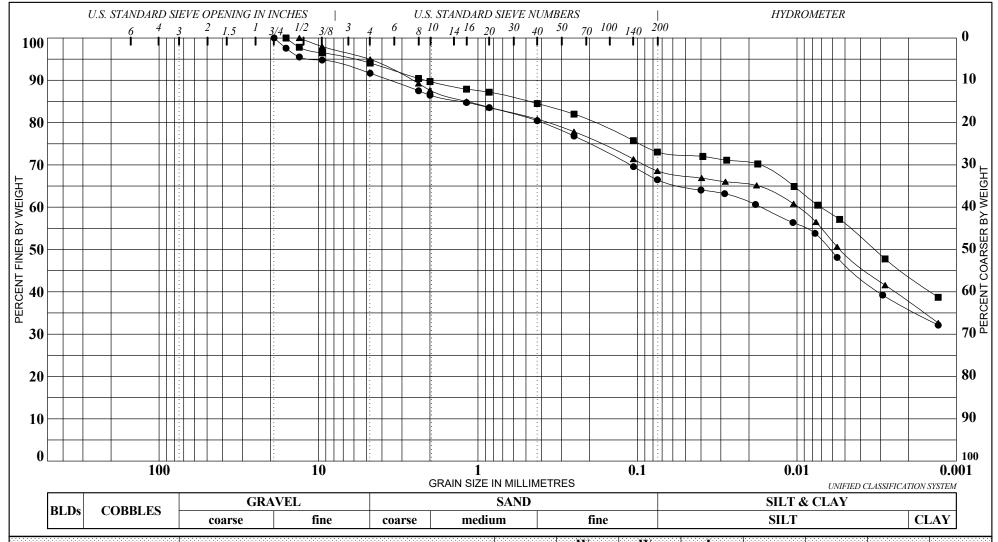
Project: 12861 Dixie Road

Location:

Project No.: 121624778

GRADATION CURVE (ASTM D422)

Figure: 1 Remarks:



Sa	mple	Depth (m)	Description	W%	WL	Wp	Ip	%Gravel	%Sand	%Silt	%Clay
•	BH-22-23	3.3	SANDY LEAN CLAY(CL)					8	25	31	36
	BH-26-23	2.5	LEAN CLAY with SAND(CL)					6	21	29	44
	BH-31-23	3.3	SANDY LEAN CLAY(CL)		29	13	16	5	26	31	38



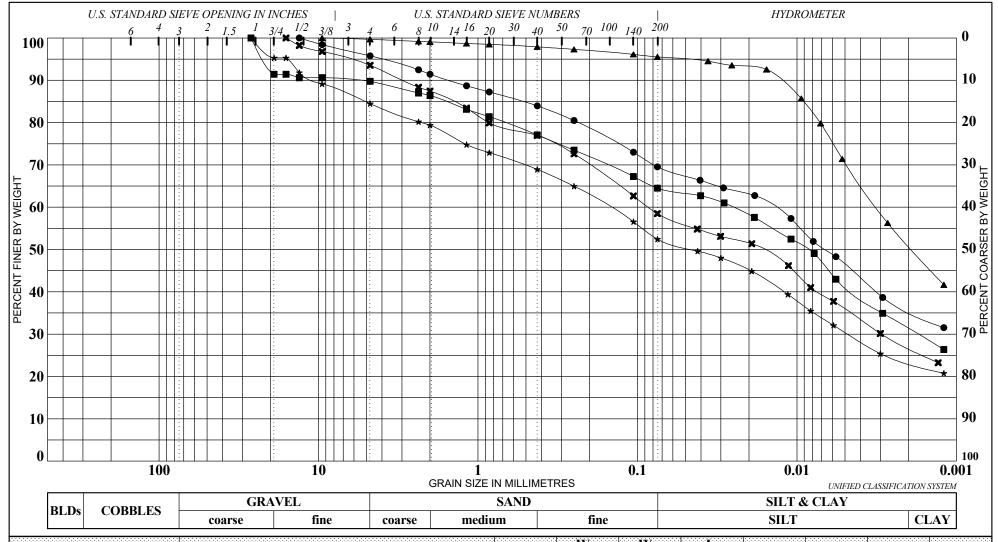
Project: 12861 Dixie Road

Location:

Project No.: 121624778

GRADATION CURVE (ASTM D422)

Figure: 2 Remarks:



Sai	mple Dep	th (m)	Description	W%	$W_{\rm L}$	Wp	Ip	%Gravel	%Sand	%Silt	%Clay
•	BH/MW38-23	1.8	SANDY LEAN CLAY(CL)					4	26	34	36
	BH/MW38-23	4.1	SANDY LEAN CLAY(CL)		30	12	18	10	26	33	31
	BH/MW38-23	7.9	LEAN CLAY(CL)					0	4	45	51
*	BH39-23	3.4	SANDY SILTY CLAYwith GRAVEL(CL-ML)					16	32	29	23
×	BH40-23	1.8	SANDY SILTY CLAY(CL-ML)					6	35	32	27

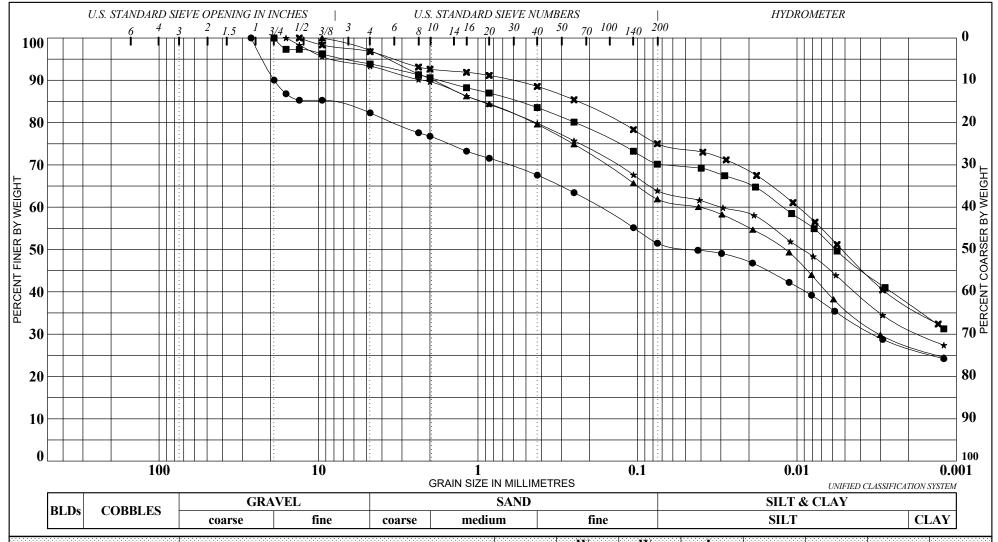


Project: 12489 Dixie Road, Caledon

Location: Caledon,ON **Project No.:** 121624777

GRADATION CURVE (ASTM D422)

Figure: 1 Remarks:



Sai	mple Dep	th (m)	Description	W%	$W_{\rm L}$	Wp	Ip	%Gravel	%Sand	%Silt	%Clay
•	BH40-23	4.9	SANDY SILTY CLAYwith GRAVEL(CL-ML)					18	30	25	27
	BH/MW51-23	1.8	SANDY LEAN CLAY(CL)					6	24	33	37
	BH52-23	1.8	SANDY SILTY CLAY(CL-ML)					3	36	34	27
*	BH52-23	3.4	SANDY LEAN CLAY(CL)		28	12	16	7	30	32	31
×	BH57-23	2.6	LEAN CLAY with SAND(CL)					3	22	38	37

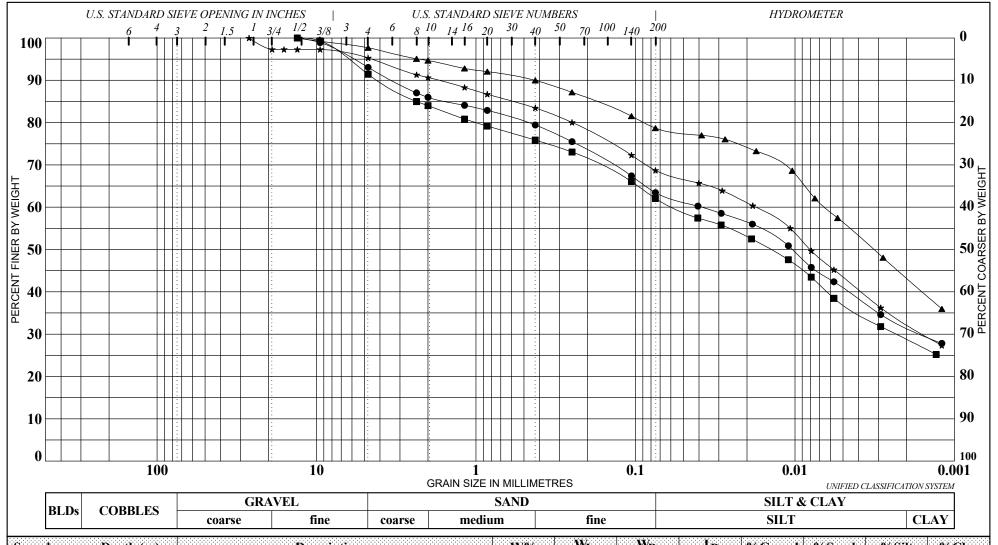


Project: 12489 Dixie Road, Caledon

Location: Caledon,ON **Project No.:** 121624777

GRADATION CURVE (ASTM D422)

Figure: 2 Remarks:



Sa	mple Dep	oth (m)	Description	W%	WL	Wp	Ip	%Gravel	%Sand	%Silt	%Clay
•	BH/MW46-23	3.4	SANDY LEAN CLAY(CL)		26	12	14	7	29	32	32
	BH/MW55-23	2.6	SANDY LEAN CLAY(CL)					9	29	33	29
	BH59-23	1.8	LEAN CLAY with SAND(CL)					2	20	35	43
*	BH67-23	2.6	SANDY LEAN CLAY(CL)					5	27	36	32



Project: 12489 Dixie Road, Caledon

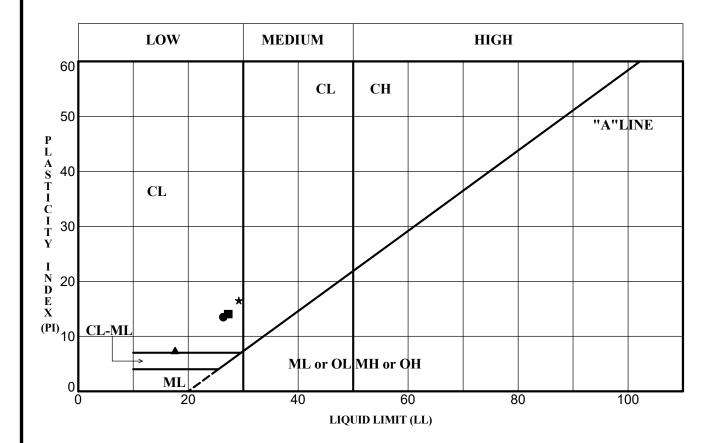
Location:

Project No.: 121624777

GRADATION CURVE (ASTM D422)

Figure: 1 Remarks:

PLASTICITY CHART



	Specimen	Depth (m)	LL	PL	PI	Fines	W%	Classification
•	BH-15-23	1.8	26	13	13	63		SANDY LEAN CLAY(CL)
	BH-19-23	3.3	27	13	14	73		LEAN CLAY with SAND(CL)
A	BH-21-23	6.3	18	10	8	57		SANDY LEAN CLAY(CL)
*	BH-31-23	3.3	29	13	16	69		SANDY LEAN CLAY(CL)



Project: 12861 Dixie Road

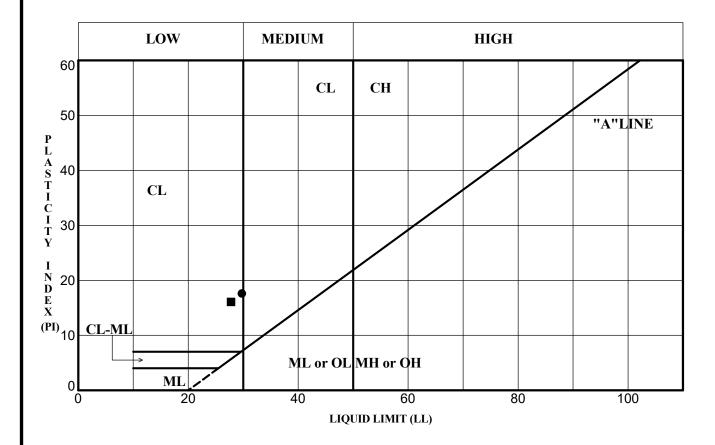
ATTERBERG LIMITS
(ASTM D4318)

Location:

Figure: 3
Remarks:

Project No.: 121624778

PLASTICITY CHART



	Specimen	Depth (m)	LL	PL	PI	Fines	W%	Classification
•	BH/MW38-23	4.1	30	12	18	65		SANDY LEAN CLAY(CL)
	BH52-23	3.4	28	12	16	64		SANDY LEAN CLAY(CL)



Project: 12489 Dixie Road, Caledon

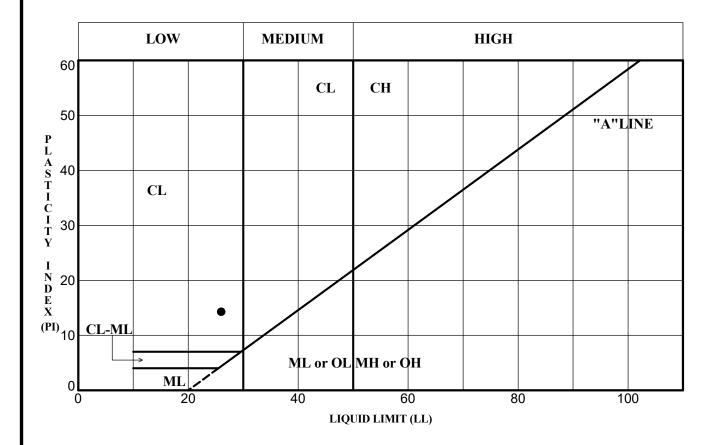
ATTERBERG LIMITS
(ASTM D4318)

Location: Caledon,ON

Figure: 3
Remarks:

Project No.: 121624777

PLASTICITY CHART



	Specimen	Depth (m)	LL	PL	PI	Fines	W%	Classification
•	BH/MW46-23	3.4	26	12	14	63		SANDY LEAN CLAY(CL)



Project: 12489 Dixie Road, Caledon **ATTERBERG LIMITS** (ASTM D4318)

Location:

Figure: 2

Project No.: 121624777

Remarks:

ALS Canada Ltd.



CERTIFICATE OF ANALYSIS

Work Order : WT2305175

Client : Stantec Consulting Ltd.

Contact : Essa Nimer

Address : 100-300 Hagey Blvd.

Waterloo ON Canada N2L 0A4

Telephone · ----

Project : 121624778

C-O-C number : ----

Sampler : CLIENT

Site : ---

Quote number : Stantec 2022-2023 MSA

No. of samples received : 4
No. of samples analysed : 4

Page : 1 of 3

Date Analysis Commenced

Laboratory : Waterloo - Environmental

Account Manager : Mathy Mahadeva

Address : 60 Northland Road, Unit 1

: 03-Mar-2023

Waterloo ON Canada N2V 2B8

Telephone : +1 519 886 6910

Date Samples Received : 03-Mar-2023 10:35

Issue Date : 09-Mar-2023 10:31

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

PO

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Amanda Ganouri-Lumsden	Department Manager - Microbiology and Prep	Centralized Prep, Waterloo, Ontario
Greg Pokocky	Supervisor - Inorganic	Inorganics, Waterloo, Ontario

Page : 2 of 3

Work Order : WT2305175

Client : Stantec Consulting Ltd.

Project : 121624778



General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key: CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances

LOR: Limit of Reporting (detection limit).

Unit	Description
%	percent
μS/cm	microsiemens per centimetre
mg/kg	milligrams per kilogram
mV	millivolts
ohm cm	ohm centimetres (resistivity)
pH units	pH units

<: less than.

>: greater than.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Page : 3 of 3

Work Order : WT2305175

Client : Stantec Consulting Ltd.

Project : 121624778



Analytical Results

Sub-Matrix: Soil/Solid			Cli	ient sample ID	BH-18-23-S5	BH-20-23-S4	BH-26-23-S4-7.	BH-31-23-S4-7.	
(Matrix: Soil/Solid)					7.5'-9'	7.5'-9'	5'-9'	5'-9'	
			Client samp	ling date / time	28-Feb-2023 13:00	28-Feb-2023 11:00	27-Feb-2023 14:00	27-Feb-2023 08:30	
Analyte CA	AS Number	Method	LOR	Unit	WT2305175-001	WT2305175-002	WT2305175-003	WT2305175-004	
					Result	Result	Result	Result	
Physical Tests									
Conductivity (1:2 leachate)		E100-L	5.00	μS/cm	129	163	197	158	
Moisture		E144	0.25	%	11.1	12.9	14.5	14.0	
Oxidation-reduction potential [ORP]		E125	0.10	mV	304	291	267	257	
pH (1:2 soil:CaCl2-aq)		E108A	0.10	pH units	7.85	7.85	7.70	7.62	
Resistivity		EC100R	100	ohm cm	7750	6130	5080	6330	
Inorganics									
Sulfides, acid volatile		E396-L	0.20	mg/kg	0.27	<0.23	<0.23	0.65	
Leachable Anions & Nutrients									
Chloride, soluble ion content	6887-00-6	E236.CI	5.0	mg/kg	<5.0	14.6	13.8	12.4	
Sulfate, soluble ion content	4808-79-8	E236.SO4	20	mg/kg	<20	30	<20	<20	

Please refer to the General Comments section for an explanation of any qualifiers detected.



QUALITY CONTROL INTERPRETIVE REPORT

Work Order : WT2305175 Page : 1 of 9

Client : Stantec Consulting Ltd. Laboratory : Waterloo - Environmental

Contact : Essa Nimer Account Manager : Mathy Mahadeva

Address :100-300 Hagey Blvd. Address :60 Northland Road, Unit 1

Waterloo, Ontario Canada N2V 2B8

 Telephone
 :-- Telephone
 : +1 519 886 6910

 Project
 : 121624778
 Date Samples Received
 : 03-Mar-2023 10:35

PO : --- Issue Date : 09-Mar-2023 10:31

C-O-C number :---Sampler :CLIENT

Site :----

Quote number : Stantec 2022-2023 MSA

No. of samples received :4
No. of samples analysed :4

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

Waterloo ON Canada N2L 0A4

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

No Analysis Holding Time Outliers exist.

Outliers: Frequency of Quality Control Samples ■ No Quality Control Sample Frequency Outliers occur.	
	alsglobal.com

Page : 3 of 9 Work Order : WT2305175

Client : Stantec Consulting Ltd.

Project : 121624778



Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and/or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: Soil/Solid Evaluation: × = Holding time exceedance; √ = Within Holding Time

Analyte Group	Method	Sampling Date	Ex	traction / Pr	reparation			Analys		
Container / Client Sample ID(s)			Preparation	Holdin	g Times	Eval	Analysis Date Holding Times		g Times	Eval
			Date	Rec	Actual			Rec	Actual	
Inorganics : Acid Volatile Sulfide in Soil by Colourimetry (0.2 mg/kg)										
Glass soil jar/Teflon lined cap [ON MECP] BH-18-23-S5 7.5'-9'	E396-L	28-Feb-2023	06-Mar-2023	14 days	6 days	✓	06-Mar-2023	7 days	0 days	✓
Inorganics : Acid Volatile Sulfide in Soil by Colourimetry (0.2 mg/kg)										
Glass soil jar/Teflon lined cap [ON MECP] BH-20-23-S4 7.5'-9'	E396-L	28-Feb-2023	06-Mar-2023	14 days	6 days	✓	06-Mar-2023	7 days	0 days	✓
Inorganics : Acid Volatile Sulfide in Soil by Colourimetry (0.2 mg/kg)										
Glass soil jar/Teflon lined cap [ON MECP] BH-26-23-S4-7.5'-9'	E396-L	27-Feb-2023	06-Mar-2023	14 days	7 days	✓	06-Mar-2023	7 days	0 days	✓
Inorganics : Acid Volatile Sulfide in Soil by Colourimetry (0.2 mg/kg)										
Glass soil jar/Teflon lined cap [ON MECP] BH-31-23-S4-7.5'-9'	E396-L	27-Feb-2023	06-Mar-2023	14 days	7 days	✓	06-Mar-2023	7 days	0 days	✓
Leachable Anions & Nutrients : Water Extractable Chloride by IC										
Glass soil jar/Teflon lined cap [ON MECP] BH-18-23-S5 7.5'-9'	E236.CI	28-Feb-2023	06-Mar-2023	30 days	6 days	✓	07-Mar-2023	28 days	1 days	✓
Leachable Anions & Nutrients : Water Extractable Chloride by IC										
Glass soil jar/Teflon lined cap [ON MECP] BH-20-23-S4 7.5'-9'	E236.CI	28-Feb-2023	06-Mar-2023	30 days	6 days	✓	07-Mar-2023	28 days	1 days	✓
Leachable Anions & Nutrients : Water Extractable Chloride by IC										
Glass soil jar/Teflon lined cap [ON MECP] BH-26-23-S4-7.5'-9'	E236.CI	27-Feb-2023	06-Mar-2023	30 days	7 days	✓	07-Mar-2023	28 days	1 days	✓

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Client : Stantec Consulting Ltd.

Project : 121624778



Matrix: Soil/Solid Evaluation: **x** = Holding time exceedance; ✓ = Within Holding Time Extraction / Preparation Analyte Group Method Sampling Date Analysis Container / Client Sample ID(s) **Holding Times** Preparation **Holding Times** Eval Analysis Date Eval Rec Actual Rec Actual Date Leachable Anions & Nutrients: Water Extractable Chloride by IC Glass soil jar/Teflon lined cap [ON MECP] E236.CI 27-Feb-2023 06-Mar-2023 1 28 days ✓ BH-31-23-S4-7.5'-9' 7 days 07-Mar-2023 1 days 30 days Leachable Anions & Nutrients : Water Extractable Sulfate by IC Glass soil jar/Teflon lined cap [ON MECP] BH-18-23-S5 7.5'-9' E236.SO4 28-Feb-2023 06-Mar-2023 30 6 days ✓ 07-Mar-2023 28 days 1 days ✓ days Leachable Anions & Nutrients : Water Extractable Sulfate by IC Glass soil jar/Teflon lined cap [ON MECP] BH-20-23-S4 7.5'-9' E236.SO4 28-Feb-2023 06-Mar-2023 ✓ 07-Mar-2023 28 days 1 30 6 days 1 days davs Leachable Anions & Nutrients : Water Extractable Sulfate by IC Glass soil jar/Teflon lined cap [ON MECP] E236.SO4 1 BH-26-23-S4-7.5'-9' 27-Feb-2023 06-Mar-2023 30 7 days 07-Mar-2023 28 days 1 days ✓ days Leachable Anions & Nutrients : Water Extractable Sulfate by IC Glass soil jar/Teflon lined cap [ON MECP] BH-31-23-S4-7.5'-9' E236.SO4 27-Feb-2023 06-Mar-2023 ✓ 07-Mar-2023 28 days ✓ 7 days 1 days 30 days Physical Tests: Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level) Glass soil jar/Teflon lined cap [ON MECP] E100-L 28-Feb-2023 ✓ BH-18-23-S5 7.5'-9' 06-Mar-2023 07-Mar-2023 30 days 7 days ----Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level) Glass soil jar/Teflon lined cap [ON MECP] BH-20-23-S4 7.5'-9' E100-L 28-Feb-2023 06-Mar-2023 07-Mar-2023 30 days 7 days ✓ Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level) Glass soil jar/Teflon lined cap [ON MECP] E100-L ✓ BH-26-23-S4-7.5'-9' 27-Feb-2023 06-Mar-2023 07-Mar-2023 30 days 8 days Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level) Glass soil jar/Teflon lined cap [ON MECP] E100-L 27-Feb-2023 06-Mar-2023 07-Mar-2023 30 days 8 days ✓ BH-31-23-S4-7.5'-9'

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Matrix: Soil/Solid Evaluation: x = Holding time exceedance; ✓ = Within Holding Time Extraction / Preparation Analysis Analyte Group Method Sampling Date Container / Client Sample ID(s) **Holding Times** Preparation Eval Analysis Date Holding Times Eval Rec Actual Rec Actual Date **Physical Tests: Moisture Content by Gravimetry** Glass soil jar/Teflon lined cap [ON MECP] E144 28-Feb-2023 04-Mar-2023 BH-18-23-S5 7.5'-9' **Physical Tests: Moisture Content by Gravimetry** Glass soil jar/Teflon lined cap [ON MECP] BH-20-23-S4 7.5'-9' E144 28-Feb-2023 04-Mar-2023 ----**Physical Tests: Moisture Content by Gravimetry** Glass soil jar/Teflon lined cap [ON MECP] BH-26-23-S4-7.5'-9' E144 27-Feb-2023 04-Mar-2023 ----**Physical Tests: Moisture Content by Gravimetry** Glass soil jar/Teflon lined cap [ON MECP] E144 27-Feb-2023 BH-31-23-S4-7.5'-9' 04-Mar-2023 **Physical Tests: ORP by Electrode** Glass soil jar/Teflon lined cap [ON MECP] BH-18-23-S5 7.5'-9' E125 28-Feb-2023 04-Mar-2023 06-Mar-2023 ✓ 6 days 180 days Physical Tests: ORP by Electrode Glass soil jar/Teflon lined cap [ON MECP] E125 28-Feb-2023 ✓ BH-20-23-S4 7.5'-9' 04-Mar-2023 06-Mar-2023 180 6 days ---days **Physical Tests: ORP by Electrode** Glass soil jar/Teflon lined cap [ON MECP] BH-26-23-S4-7.5'-9' E125 27-Feb-2023 04-Mar-2023 06-Mar-2023 7 days ✓ 180 days Physical Tests : ORP by Electrode Glass soil jar/Teflon lined cap [ON MECP] ✓ BH-31-23-S4-7.5'-9' E125 27-Feb-2023 04-Mar-2023 06-Mar-2023 180 7 days days Physical Tests: pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received Glass soil jar/Teflon lined cap [ON MECP] E108A 28-Feb-2023 03-Mar-2023 06-Mar-2023 30 days 6 days ✓ BH-18-23-S5 7.5'-9'

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Client : Stantec Consulting Ltd.

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Matrix: Soil/Solid Evaluation: × = Holding time exceedance; ✓ = Within Holding Time

Wattix. Golfgoria						valuation.	riolaling time excee	suarioc , .	- *************************************	Tiolaing Tilli
Analyte Group	Method	Sampling Date	Ext	Extraction / Preparation				Analys		
Container / Client Sample ID(s)			Preparation	Holding	Holding Times Eval		Analysis Date	rsis Date Holding Times		Eval
			Date	Rec	Actual			Rec	Actual	
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP] BH-20-23-S4 7.5'-9'	E108A	28-Feb-2023	03-Mar-2023				06-Mar-2023	30 days	6 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP] BH-26-23-S4-7.5'-9'	E108A	27-Feb-2023	03-Mar-2023				06-Mar-2023	30 days	7 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP] BH-31-23-S4-7.5'-9'	E108A	27-Feb-2023	03-Mar-2023				06-Mar-2023	30 days	7 days	✓

Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).

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Client : Stantec Consulting Ltd.

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Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: Soil/Solid		Evaluatio	n: × = QC freque	ency outside spe	ecification; ✓ = 0	QC frequency wit	hin specification
Quality Control Sample Type			Co	ount		Frequency (%)	
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
Acid Volatile Sulfide in Soil by Colourimetry (0.2 mg/kg)	E396-L	853722	1	10	10.0	4.7	✓
Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)	E100-L	851871	1	8	12.5	5.0	✓
Moisture Content by Gravimetry	E144	852777	1	20	5.0	5.0	✓
ORP by Electrode	E125	852781	1	10	10.0	5.0	✓
pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received	E108A	851972	1	14	7.1	5.0	✓
Water Extractable Chloride by IC	E236.CI	853954	1	8	12.5	5.0	✓
Water Extractable Sulfate by IC	E236.SO4	853953	1	8	12.5	5.0	✓
Laboratory Control Samples (LCS)							
Acid Volatile Sulfide in Soil by Colourimetry (0.2 mg/kg)	E396-L	853722	1	10	10.0	4.7	✓
Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)	E100-L	851871	2	8	25.0	10.0	✓
Moisture Content by Gravimetry	E144	852777	1	20	5.0	5.0	✓
ORP by Electrode	E125	852781	1	10	10.0	5.0	✓
pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received	E108A	851972	1	14	7.1	5.0	✓
Water Extractable Chloride by IC	E236.CI	853954	2	8	25.0	10.0	✓
Water Extractable Sulfate by IC	E236.SO4	853953	2	8	25.0	10.0	✓
Method Blanks (MB)							
Acid Volatile Sulfide in Soil by Colourimetry (0.2 mg/kg)	E396-L	853722	1	10	10.0	4.7	✓
Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)	E100-L	851871	1	8	12.5	5.0	√
Moisture Content by Gravimetry	E144	852777	1	20	5.0	5.0	√
Water Extractable Chloride by IC	E236.CI	853954	1	8	12.5	5.0	✓
Water Extractable Sulfate by IC	E236.SO4	853953	1	8	12.5	5.0	√

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Client : Stantec Consulting Ltd.

Project : 121624778



Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)	E100-L Waterloo - Environmental	Soil/Solid	CSSS Ch. 15 (mod)/APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a soil sample that has been added in a defined ratio of soil to deionized water, then shaken well and allowed to settle. Conductance is measured in the fluid that is observed in the upper layer.
pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received	E108A Waterloo - Environmental	Soil/Solid	MOEE E3137A	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C) and is carried out in accordance with procedures described in the Analytical Protocol (prescriptive method). A minimum 10g portion of the sample, as received, is extracted with 20mL of 0.01M calcium chloride solution by shaking for at least 30 minutes. The aqueous layer is separated from the soil by centrifuging, settling, or decanting and then analyzed using a pH meter and electrode.
ORP by Electrode	E125 Waterloo - Environmental	Soil/Solid	APHA 2580 (mod)	Oxidation Redution Potential (ORP) is reported as the oxidation-reduction potential of the platinum metal-reference electrode employed in the analysis, measured in mV.
Moisture Content by Gravimetry	E144 Waterloo - Environmental	Soil/Solid	CCME PHC in Soil - Tier 1	Moisture is measured gravimetrically by drying the sample at 105°C. Moisture content is calculated as the weight loss (due to water) divided by the wet weight of the sample, expressed as a percentage.
Water Extractable Chloride by IC	E236.Cl Waterloo - Environmental	Soil/Solid	EPA 300.1	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection using a soil sample that has been added in a defined ratio of soil to deionized water, then shaken well and allowed to settle. Anions are measured in the fluid that is observed in the upper layer.
Water Extractable Sulfate by IC	E236.SO4 Waterloo - Environmental	Soil/Solid	EPA 300.1	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection using a soil sample that has been added in a defined ratio of soil to deionized water, then shaken well and allowed to settle. Anions are measured in the fluid that is observed in the upper layer.
Acid Volatile Sulfide in Soil by Colourimetry (0.2 mg/kg)	E396-L Waterloo - Environmental	Soil/Solid	APHA 4500S2J	This analysis is carried out in accordance with the method described in APHA 4500 S2-J. After extraction the Acid Volatile Sulphide is determined colourimetrically.
Resistivity Calculation for Soil Using E100-L	EC100R Waterloo - Environmental	Soil/Solid	APHA 2510 B	Soil Resistivity (calculated) is determined as the inverse of the conductivity of a 2:1 water:soil leachate (dry weight). This method is intended as a rapid approximation for Soil Resistivity. Where high accuracy results are required, direct measurement of Soil Resistivity by the Wenner Four-Electrode Method (ASTM G57) is recommended.
Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions

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Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Leach 1:2 Soil:Water for pH/EC	EP108	Soil/Solid	BC WLAP METHOD:	The procedure involves mixing the dried (at <60°C) and sieved (No. 10 / 2mm) sample
			PH, ELECTROMETRIC,	with deionized/distilled water at a 1:2 ratio of sediment to water.
	Waterloo -		SOIL	
	Environmental			
Leach 1:2 Soil: 0.01CaCl2 - As Received for	EP108A	Soil/Solid	MOEE E3137A	A minimum 10g portion of the sample, as received, is extracted with 20mL of 0.01M
pH				calcium chloride solution by shaking for at least 30 minutes. The aqueous layer is
	Waterloo -			separated from the soil by centrifuging, settling or decanting and then analyzed using a
	Environmental			pH meter and electrode.
Preparation of ORP by Electrode	EP125	Soil/Solid	APHA 2580 (mod)	Field-moist sample is extracted in a 1:2 ratio with DI water and then analyzed by ORP
				meter.
	Waterloo -			
	Environmental			
Anions Leach 1:10 Soil:Water (Dry)	EP236	Soil/Solid	EPA 300.1	5 grams of dried soil is mixed with 50 grams of distilled water for a minimum of 30
				minutes. The extract is filtered and analyzed by ion chromatography.
	Waterloo -			
	Environmental			
Distillation for Acid Volatile Sulfide in Soil	EP396-L	Soil/Solid	APHA 4500S2J	Acid Volatile Sulfide is determined by colourimetric measurement on a sediment sample
				that has been treated with hydrochloric acid within a purge and trap system, where the
	Waterloo -			evolved hydrogen sulfide gas is carried into a basic solution by argon gas for analysis.
	Environmental			

ALS Canada Ltd.



QUALITY CONTROL REPORT

Work Order : WT2305175

Client : Stantec Consulting Ltd.

Contact : Essa Nimer

Address : 100-300 Hagey Blvd.

Waterloo ON Canada N2L 0A4

Telephone

Project : 121624778

PO :----C-O-C number :----

Sampler : CLIENT

Site :---

Quote number : Stantec 2022-2023 MSA

No. of samples received : 4

No. of samples analysed : 4

Page : 1 of 5

Laboratory : Waterloo - Environmental

Account Manager : Mathy Mahadeva

Address : 60 Northland Road, Unit 1

Waterloo, Ontario Canada N2V 2B8

Telephone :+1 519 886 6910

Date Samples Received : 03-Mar-2023 10:35

Date Analysis Commenced : 03-Mar-2023

Issue Date : 09-Mar-2023 10:31

Waterloo Centralized Prep, Waterloo, Ontario

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Reference Material (RM) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department

Amanda Ganouri-Lumsden Department Manager - Microbiology and Prep Greg Pokocky Supervisor - Inorganic

Supervisor - Inorganic Waterloo Inorganics, Waterloo, Ontario

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Work Order: WT2305175

Client : Stantec Consulting Ltd.

Project : 121624778



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key:

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO = Data Quality Objective.

LOR = Limit of Reporting (detection limit).

RPD = Relative Percent Difference

= Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

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Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: Soil/Solid							Labora	tory Duplicate (D	UP) Report		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC	Lot: 851871)										
WT2305208-002	Anonymous	Conductivity (1:2 leachate)		E100-L	5.00	μS/cm	2.02 mS/cm	2030	0.494%	20%	
Physical Tests (QC	Lot: 851972)										
WT2305151-001	Anonymous	pH (1:2 soil:CaCl2-aq)		E108A	0.10	pH units	7.39	7.34	0.679%	5%	
Physical Tests (QC	Lot: 852777)										
WT2305198-002	Anonymous	Moisture		E144	0.25	%	19.7	19.7	0.383%	20%	
Physical Tests (QC	Lot: 852781)										
WT2305175-001	BH-18-23-S5 7.5'-9'	Oxidation-reduction potential [ORP]		E125	0.10	mV	304	339	10.9%	25%	
Inorganics (QC Lot	: 853722)										
WT2304678-001	Anonymous	Sulfides, acid volatile		E396-L	0.21	mg/kg	<0.22	<0.21	0.21	Diff <2x LOR	
Leachable Anions 8	Nutrients (QC Lot: 853)	953)									
WT2305175-001	BH-18-23-S5 7.5'-9'	Sulfate, soluble ion content	14808-79-8	E236.SO4	20	mg/kg	<20	<20	0	Diff <2x LOR	
Leachable Anions 8	Nutrients (QC Lot: 853	954)									
WT2305175-001	BH-18-23-S5 7.5'-9'	Chloride, soluble ion content	16887-00-6	E236.CI	5.0	mg/kg	<5.0	<5.0	0	Diff <2x LOR	
		-									

Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: Soil/Solid

Analyte	CAS Number Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 851871)					
Conductivity (1:2 leachate)	E100-L	5	μS/cm	<5.00	
Physical Tests (QCLot: 852777)					
Moisture	E144	0.25	%	<0.25	
Inorganics (QCLot: 853722)					
Sulfides, acid volatile	E396-L	0.2	mg/kg	<0.20	
Leachable Anions & Nutrients (QCLot:	853953)				
Sulfate, soluble ion content	14808-79-8 E236.SO4	20	mg/kg	<20	
Leachable Anions & Nutrients (QCLot:	853954)				
Chloride, soluble ion content	16887-00-6 E236.CI	5	mg/kg	<5.0	

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Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Soil/Solid						Laboratory Co	ntrol Sample (LCS)	Report	
					Spike	Recovery (%)	Recovery	Limits (%)	
Analyte	CAS Number	Method	LOR	Unit	Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 851871)									
Conductivity (1:2 leachate)		E100-L	5	μS/cm	1409 μS/cm	99.1	90.0	110	
Physical Tests (QCLot: 851972)									
pH (1:2 soil:CaCl2-aq)		E108A		pH units	7 pH units	100	98.0	102	
Physical Tests (QCLot: 852777)									
Moisture		E144	0.25	%	50 %	100	90.0	110	
Inorganics (QCLot: 853722)									
Sulfides, acid volatile		E396-L	0.2	mg/kg	2.472 mg/kg	73.6	70.0	130	
Leachable Anions & Nutrients (QCLot: 8539	53)								
Sulfate, soluble ion content	14808-79-8	E236.SO4	20	mg/kg	5000 mg/kg	99.6	80.0	120	
Leachable Anions & Nutrients (QCLot: 8539	54)								
Chloride, soluble ion content	16887-00-6	E236.Cl	5	mg/kg	5000 mg/kg	101	80.0	120	

Reference Material (RM) Report

A Reference Material (RM) is a homogenous material with known and well-established analyte concentrations. RMs are processed in an identical manner to test samples, and are used to monitor and control the accuracy and precision of a test method for a typical sample matrix. RM results are expressed as percent recovery of the target analyte concentration. RM targets may be certified target concentrations provided by the RM supplier, or may be ALS long-term mean values (for empirical test methods).

Sub-Matrix:						Refere	nce Material (RM) Re	port	
					RM Target	Recovery (%)	Recovery L	imits (%)	
Laboratory sample ID	Reference Material ID	Analyte	CAS Number	Method	Concentration	RM	Low	High	Qualifier
Physical Tests (C	CLot: 851871)								
	RM	Conductivity (1:2 leachate)		E100-L	1875.8 μS/cm	95.3	70.0	130	
Physical Tests (C	CLot: 852781)								
	RM	Oxidation-reduction potential [ORP]		E125	475 mV	102	80.0	120	
Leachable Anions	s & Nutrients (QCLot: 8	353953)							
	RM	Sulfate, soluble ion content	14808-79-8	E236.SO4	589 mg/kg	107	70.0	130	
Leachable Anions	s & Nutrients (QCLot: 8	353954)							
	RM	Chloride, soluble ion content	16887-00-6	E236.CI	466 mg/kg	102	70.0	130	

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Client : Stantec Consulting Ltd.

Project : 121624778



Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

COC Number: 22 -

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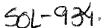
Environmental Division Waterloo

Work Order Reference

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Company:	Stantec Consulting				-1	ormat: 🖸 PDF										irges ap	xply ge minir				ZMO	₩e1		l
Contact:	Essa Nimer					Reports with COA											rge mini			₩₩		MT.		
Phone:	226-338-0812					ults to Criteria on Repor											rge mini			III ji v	R CH	ΙQ		ĺ
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Street:	100-300 Hagey Blvd					Raid.Khamis@sta			∐ Sa							% rush s			_	1111		T'Ile	1111	
City/Province:	Waterloo, ON				Email 2	Essa.Nimer@star	ntec.com		11/0/6/44							ests on s	veeker		Telephe	one: +	1 519 886	6910		
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Company:					Email 1 or Fax	Raid.Khamis@sta	antec.com		RS	ļ,	in	idicate I	Filtered	(F), Pre	served	(P) or F	iltered ar	nd Prese	erved (F	/P) belov	<u>, </u>	4	REQUIRED	(Se
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PO / AFE:					Requisitioner:			<u></u>		<u>.</u>												Ī	8	IAZ,
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Drinking	Water (DW) Samples	(client use)		,,		xcel COC only)			Cool	ing Me	ethod:	Þ	WENE		ICE	ICE	PACKS	∏ F	FROZEN	Maple		ING INIT	TATED	1800
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REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.





CERTIFICATE OF ANALYSIS

Work Order : WT2303358

Amendment : 1

Address : 100-300 Hagey Blvd. Address : 60 Northland Road, Unit 1

Waterloo Ontario Canada N2L 0A4

Telephone

Waterloo On Canada N2V 2B8

Telephone

Telephone

Telephone

Telephone

Telephone

 Telephone
 : --- Telephone
 : +1 519 886 6910

 Project
 : 121624777
 Date Samples Received
 : 13-Feb-2023 09:10

 PO
 : --- Date Analysis Commenced
 : 14-Feb-2023

 C-O-C number
 : 25-Nov-2024 17:12

Sampler : CLIENT
Site : ----

Quote number : Stantec 2024-2027 Standing Offer

No. of samples received : 6
No. of samples analysed : 6

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN)

Signatories

This document has been electronically signed by the authorized signatories below.	Electronic signing is conducted in accordance with US F	DA 21 CFR Part 11.
Signatories	Position	Laboratory Department
Amanda Ganouri-Lumsden	Department Manager - Microbiology and Prep	Centralized Prep, Waterloo, Ontario
Greg Pokocky	Manager - Inorganics	Inorganics, Waterloo, Ontario

Page: 1 of 5 alsglobal.com

Work Order : WT2303358 Amendment 1

Client : Stantec Consulting Ltd.

Project : 121624777



General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key: CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances.

LOR: Limit of Reporting (detection limit).

Unit	Description
ohm cm	ohm centimetres (resistivity)
%	percent
mV	millivolts
μS/cm	microsiemens per centimetre
pH units	pH units
mg/kg	milligrams per kilogram

<: less than.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Workorder Comments

Amendment (25-NOV-24): This report has been amended as a result of a request to change sample identification numbers (IDs) received by ALS from Essa Nimer on 25-NOV-24. All sample ID's updated. All analysis results are as per the previous report.

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Work Order : WT2303358 Amer Client : Stantec Consulting Ltd. Project : 121624777 Amendment 1



alsglobal.com Page: 3 of 5

Work Order : WT2303358 Amen
Client : Stantec Consulting Ltd.
Project : 121624777 Amendment 1



Analytical Results

Sub-Matrix: Soil/Solid (Matrix: Soil/Solid)			Client s ai	mple ID	BH47-23-S3-5'-6.5'	BH/MW55-23-S2-5'- 6.5'	BH57-23-S3-7.5'-9'	BH59-23-S3-7.5'-9'	BH62-23-S3-7.5'-9'
		(Client sampling date	/ time	31-Jan-2023 13:00	31-Jan-2023 15:00	24-Jan-2023 14:00	03-Feb-2023 10:00	03-Feb-2023 13:00
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2303358-001	WT2303358-002	WT2303358-003	WT2303358-004	WT2303358-005
					Result	Result	Result	Result	Result
Physical Tests									
Conductivity (1:2 leachate)		E100-L/WT	5.00	μS/cm	172	185	190	197	188
Moisture		E144/WT	0.25	%	9.04	10.3	12.0	13.6	12.1
Oxidation-reduction potential [ORP]		E125/WT	0.10	mV	276	293	273	268	290
pH (1:2 soil:CaCl2-aq)		E108A/WT	0.10	pH units	7.87	7.72	7.72	7.77	7.79
Resistivity		EC100R/WT	100	ohm cm	5810	5400	5260	5080	5320
Inorganics									
Sulfides, acid volatile		E396-L/WT	0.20	mg/kg	0.65	0.34	0.76	0.46	<0.23
Leachable Anions & Nutrients									
Chloride, soluble ion content	16887-00-6	E236.CI/WT	5.0	mg/kg	14.8	11.3	<5.0	6.3	7.9
Sulfate, soluble ion content	14808-79-8	E236.SO4/WT	20	mg/kg	22	22	23	25	23

Please refer to the General Comments section for an explanation of any result qualifiers detected.

alsglobal.com Page: 4 of 5

Work Order : WT2303358 Amen
Client : Stantec Consulting Ltd.
Project : 121624777 Amendment 1



Analytical Results

Sub-Matrix: Soil/Solid (Matrix: Soil/Solid)			Client sa	mple ID	BH66-23S3-7.5'- 9'	 	
		C	Client sampling date	/ time	02-Feb-2023 11:00	 	
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2303358-006	 	
					Result	 	
Physical Tests							
Conductivity (1:2 leachate)		E100-L/WT	5.00	μS/cm	236	 	
Moisture		E144/WT	0.25	%	13.7	 	
Oxidation-reduction potential [ORP]		E125/WT	0.10	mV	274	 	
pH (1:2 soil:CaCl2-aq)		E108A/WT	0.10	pH units	7.79	 	
Resistivity		EC100R/WT	100	ohm cm	4240	 	
Inorganics							
Sulfides, acid volatile		E396-L/WT	0.20	mg/kg	0.27	 	
Leachable Anions & Nutrients							
Chloride, soluble ion content	16887-00-6	E236.CI/WT	5.0	mg/kg	15.8	 	
Sulfate, soluble ion content	14808-79-8	E236.SO4/WT	20	mg/kg	39	 	

Please refer to the General Comments section for an explanation of any result qualifiers detected.

alsglobal.com Page: 5 of 5



QUALITY CONTROL INTERPRETIVE REPORT

Work Order : **WT2303358** Page : 1 of 10

Amendment :1

Client : Stantec Consulting Ltd. Laboratory : ALS Environmental - Waterloo

Contact : Essa Nimer Account Manager : Mathy Mahadeva

Address :100-300 Hagey Blvd. Address :60 Northland Road, Unit 1

Waterloo, Ontario Canada N2V 2B8

 Telephone
 :-- Telephone
 : +1 519 886 6910

 Project
 : 121624777
 Date Samples Received
 : 13-Feb-2023 09:10

 PO
 :-- Issue Date
 : 25-Nov-2024 14:01

C-O-C number : ---Sampler : CLIENT
Site :----

Quote number : Stantec 2024-2027 Standing Offer

Waterloo ON Canada N2L 0A4

No. of samples received :6
No. of samples analysed :6

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

No Reference Material (RM) Sample outliers occur.

Outliers: Analysis Holding Time Compliance (Breaches) ● Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

No Quality Control Sample Frequency Outliers occur.

Page : 3 of 10

Work Order : WT2303358 Amendment 1
Client : Stantec Consulting Ltd.

Project : 121624777

Matrix: Soil/Solid

BH59-23-S3-7.5'-9'



Evaluation: **x** = Holding time exceedance; ✓ = Within Holding Time

Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Analyte Group : Analytical Method	Method	Sampling Date	Ext	traction / Pr	reparation			Analys	is	
Container / Client Sample ID(s)			Preparation Date	Holding Rec	g Times Actual	Eval	Analysis Date	Holding Rec	Times Actual	Eval
norganics : Acid Volatile Sulfide in Soil by Colourimetry (0.2 mg/kg)										
Non compliant container BH59-23-S3-7.5'-9'	E396-L	03-Feb-2023	15-Feb-2023	14 days	12 days	✓	15-Feb-2023	14 days	12 days	✓
norganics : Acid Volatile Sulfide in Soil by Colourimetry (0.2 mg/kg)										
Non compliant container BH62-23-S3-7.5'-9'	E396-L	03-Feb-2023	15-Feb-2023	14 days	12 days	✓	15-Feb-2023	14 days	12 days	✓
norganics : Acid Volatile Sulfide in Soil by Colourimetry (0.2 mg/kg)										
Non compliant container BH66-23S3-7.5'-9'	E396-L	02-Feb-2023	15-Feb-2023	14 days	13 days	1	15-Feb-2023	14 days	13 days	✓
norganics : Acid Volatile Sulfide in Soil by Colourimetry (0.2 mg/kg)										
Non compliant container BH/MW55-23-S2-5'-6.5'	E396-L	31-Jan-2023	14-Feb-2023	14 days	14 days	✓	14-Feb-2023	14 days	14 days	✓
norganics : Acid Volatile Sulfide in Soil by Colourimetry (0.2 mg/kg)										
Non compliant container BH47-23-S3-5'-6.5'	E396-L	31-Jan-2023	14-Feb-2023	14 days	14 days	✓	14-Feb-2023	14 days	14 days	✓
norganics : Acid Volatile Sulfide in Soil by Colourimetry (0.2 mg/kg)										
Non compliant container BH57-23-S3-7.5'-9'	E396-L	24-Jan-2023	14-Feb-2023	14 days	21 days	* EHTR	14-Feb-2023	14 days	21 days	✓
Leachable Anions & Nutrients : Water Extractable Chloride by IC										
Non compliant container										

03-Feb-2023

16-Feb-2023

30

days

13

days

E236.CI

30 days 13 days

16-Feb-2023

Page : 4 of 10

Work Order : WT2303358 Amendment 1
Client : Stantec Consulting Ltd.

Project : 121624777



Matrix: Soil/Solid Evaluation: **x** = Holding time exceedance; ✓ = Within Holding Time Extraction / Preparation Analyte Group : Analytical Method Analysis Method Sampling Date Container / Client Sample ID(s) **Holding Times** Preparation **Holding Times** Eval Analysis Date Eval Rec Actual Rec Actual Date Leachable Anions & Nutrients : Water Extractable Chloride by IC Non compliant container E236.CI 03-Feb-2023 16-Feb-2023 16-Feb-2023 30 days 13 days ✓ BH62-23-S3-7.5'-9' 30 13 days days Leachable Anions & Nutrients : Water Extractable Chloride by IC Non compliant container BH66-23--S3-7.5'-9' E236.CI 02-Feb-2023 16-Feb-2023 30 1 16-Feb-2023 30 days 14 days ✓ 14 days days Leachable Anions & Nutrients : Water Extractable Chloride by IC Non compliant container E236.CI 31-Jan-2023 16-Feb-2023 1 16-Feb-2023 30 days 16 days 1 BH/MW55-23-S2-5'-6.5' 30 16 days days Leachable Anions & Nutrients : Water Extractable Chloride by IC Non compliant container E236.CI 1 BH47-23-S3-5'-6.5' 31-Jan-2023 16-Feb-2023 30 16-Feb-2023 30 days 16 days 1 16 days days Leachable Anions & Nutrients : Water Extractable Chloride by IC Non compliant container E236.CI 24-Jan-2023 16-Feb-2023 1 16-Feb-2023 30 days 23 days ✓ BH57-23-S3-7.5'-9' 30 23 days days Leachable Anions & Nutrients : Water Extractable Sulfate by IC Non compliant container E236.SO4 03-Feb-2023 1 1 BH59-23-S3-7.5'-9' 16-Feb-2023 30 13 16-Feb-2023 30 days 13 days days days Leachable Anions & Nutrients : Water Extractable Sulfate by IC Non compliant container BH62-23-S3-7.5'-9' E236.SO4 03-Feb-2023 16-Feb-2023 1 16-Feb-2023 30 days 13 days 30 13 days days Leachable Anions & Nutrients : Water Extractable Sulfate by IC Non compliant container 1 BH66-23--S3-7.5'-9' E236.SO4 02-Feb-2023 16-Feb-2023 30 14 16-Feb-2023 30 days 14 days 1 days days Leachable Anions & Nutrients : Water Extractable Sulfate by IC Non compliant container E236.SO4 31-Jan-2023 16-Feb-2023 1 16-Feb-2023 30 days 16 days 1 BH/MW55-23-S2-5'-6.5' 30 16 days days

Page : 5 of 10

Work Order : WT2303358 Amendment 1
Client : Stantec Consulting Ltd.

Project : 121624777



Matrix: Soil/Solid Evaluation: **x** = Holding time exceedance; ✓ = Within Holding Time Extraction / Preparation Analyte Group : Analytical Method Analysis Method Sampling Date Container / Client Sample ID(s) **Holding Times** Preparation Holding Times Eval Analysis Date Eval Rec Actual Rec Actual Date Leachable Anions & Nutrients : Water Extractable Sulfate by IC Non compliant container E236.SO4 31-Jan-2023 16-Feb-2023 16-Feb-2023 30 days 16 days ✓ BH47-23-S3-5'-6.5' 30 16 days days Leachable Anions & Nutrients : Water Extractable Sulfate by IC Non compliant container BH57-23-S3-7.5'-9' E236.SO4 24-Jan-2023 16-Feb-2023 30 23 1 16-Feb-2023 30 days 23 days ✓ days days Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level) Non compliant container E100-L 03-Feb-2023 15-Feb-2023 1 16-Feb-2023 30 days 13 days 1 BH62-23-S3-7.5'-9' 30 12 davs davs Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level) Non compliant container E100-L 1 BH59-23-S3-7.5'-9' 03-Feb-2023 15-Feb-2023 30 13 16-Feb-2023 30 days 13 days 1 days days Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level) Non compliant container BH66-23--S3-7.5'-9' E100-L 02-Feb-2023 15-Feb-2023 1 16-Feb-2023 ✓ 30 days 14 days 30 14 days days Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level) Non compliant container E100-L 31-Jan-2023 1 1 BH/MW55-23-S2-5'-6.5' 15-Feb-2023 30 15 16-Feb-2023 30 days 16 days days days Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level) Non compliant container BH47-23-S3-5'-6.5' E100-L 31-Jan-2023 15-Feb-2023 1 16-Feb-2023 30 days 16 days ✓ 30 15 days days Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level) Non compliant container E100-L 1 30 days 23 days BH57-23-S3-7.5'-9' 24-Jan-2023 15-Feb-2023 30 22 16-Feb-2023 1 days days **Physical Tests: Moisture Content by Gravimetry** Non compliant container E144 03-Feb-2023 13-Feb-2023 BH62-23-S3-7.5'-9' ----10 days

Page : 6 of 10

Work Order : WT2303358 Amendment 1
Client : Stantec Consulting Ltd.

Project : 121624777



Matrix: Soil/Solid Evaluation: **x** = Holding time exceedance; ✓ = Within Holding Time Analyte Group : Analytical Method Extraction / Preparation Analysis Method Sampling Date Container / Client Sample ID(s) Preparation Holding Times Eval Analysis Date **Holding Times** Eval Rec Rec Actual Actual Date **Physical Tests: Moisture Content by Gravimetry** Non compliant container BH59-23-S3-7.5'-9' E144 03-Feb-2023 13-Feb-2023 11 days **Physical Tests: Moisture Content by Gravimetry** Non compliant container BH66-23--S3-7.5'-9' E144 02-Feb-2023 13-Feb-2023 11 days **Physical Tests: Moisture Content by Gravimetry** Non compliant container BH/MW55-23-S2-5'-6.5' E144 31-Jan-2023 13-Feb-2023 13 days ----Physical Tests: Moisture Content by Gravimetry Non compliant container E144 31-Jan-2023 BH47-23-S3-5'-6.5' 13-Feb-2023 13 days **Physical Tests: Moisture Content by Gravimetry** Non compliant container BH57-23-S3-7.5'-9' E144 24-Jan-2023 13-Feb-2023 20 days Physical Tests : ORP by Electrode Non compliant container E125 03-Feb-2023 1 ✓ BH62-23-S3-7.5'-9' 14-Feb-2023 180 11 14-Feb-2023 180 11 days days days days **Physical Tests: ORP by Electrode** Non compliant container BH59-23-S3-7.5'-9' E125 03-Feb-2023 14-Feb-2023 15-Feb-2023 12 days 1 180 11 180 days days days Physical Tests : ORP by Electrode Non compliant container 02-Feb-2023 14-Feb-2023 1 14-Feb-2023 1 BH66-23--S3-7.5'-9' E125 180 12 180 12 days days days days Physical Tests : ORP by Electrode Non compliant container E125 31-Jan-2023 1 14-Feb-2023 15-Feb-2023 1 BH/MW55-23-S2-5'-6.5' 15 days 180 14 180 days days days

Page : 7 of 10

Work Order : WT2303358 Amendment 1
Client : Stantec Consulting Ltd.

Project : 121624777



Matrix: Soil/Solid Evaluation: x = Holding time exceedance; ✓ = Within Holding Time

Analyte Group : Analytical Method	Method	Sampling Date	Ext	raction / Pr			Holding time excer	Analys		Troiting Time
Container / Client Sample ID(s)			Preparation	Holdin	g Times	Eval	Analysis Date	Holding	Times	Eval
, ,,			Date	Rec	Actual		7	Rec	Actual	
Physical Tests : ORP by Electrode								•		
Non compliant container										
BH47-23-S3-5'-6.5'	E125	31-Jan-2023	14-Feb-2023	180	14	✓	15-Feb-2023	180	15 days	✓
				days	days			days		
Physical Tests : ORP by Electrode										
Non compliant container										
BH57-23-S3-7.5'-9'	E125	24-Jan-2023	14-Feb-2023	180	21	✓	15-Feb-2023	180	22 days	✓
				days	days			days		
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Non compliant container										
BH59-23-S3-7.5'-9'	E108A	03-Feb-2023	14-Feb-2023	30	11	✓	15-Feb-2023	30 days	12 days	✓
				days	days					
Physical Tests: pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Non compliant container										
BH62-23-S3-7.5'-9'	E108A	03-Feb-2023	14-Feb-2023	30	11	✓	15-Feb-2023	30 days	12 days	✓
				days	days					
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Non compliant container										
BH66-23S3-7.5'-9'	E108A	02-Feb-2023	14-Feb-2023	30	12	✓	15-Feb-2023	30 days	13 days	✓
				days	days					
Physical Tests: pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Non compliant container										
BH/MW55-23-S2-5'-6.5'	E108A	31-Jan-2023	14-Feb-2023	30	14	✓	15-Feb-2023	30 days	15 days	✓
				days	days					
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received									'	
Non compliant container										
BH47-23-S3-5'-6.5'	E108A	31-Jan-2023	14-Feb-2023	30	14	✓	15-Feb-2023	30 days	15 days	✓
				days	days					
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Non compliant container										
BH57-23-S3-7.5'-9'	E108A	24-Jan-2023	14-Feb-2023	30	21	✓	15-Feb-2023	30 days	22 days	✓
				days	days					

Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).

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Client : Stantec Consulting Ltd.

Project : 121624777



Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: Soil/Solid		Evaluation	on: × = QC frequ	ency outside spe	ecification; ✓ = 0	QC frequency with	hin specification
Quality Control Sample Type			Co	ount		Frequency (%)	
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
Acid Volatile Sulfide in Soil by Colourimetry (0.2 mg/kg)	E396-L	835613	2	16	12.5	4.7	✓
Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)	E100-L	833550	1	14	7.1	5.0	✓
Moisture Content by Gravimetry	E144	833299	2	38	5.2	5.0	✓
ORP by Electrode	E125	833750	2	21	9.5	5.0	✓
pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received	E108A	833382	1	20	5.0	5.0	✓
Water Extractable Chloride by IC	E236.CI	833552	1	14	7.1	5.0	✓
Water Extractable Sulfate by IC	E236.SO4	833551	1	14	7.1	5.0	✓
Laboratory Control Samples (LCS)							
Acid Volatile Sulfide in Soil by Colourimetry (0.2 mg/kg)	E396-L	835613	2	16	12.5	4.7	✓
Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)	E100-L	833550	2	14	14.2	10.0	✓
Moisture Content by Gravimetry	E144	833299	2	38	5.2	5.0	✓
ORP by Electrode	E125	833750	2	21	9.5	5.0	✓
pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received	E108A	833382	1	20	5.0	5.0	✓
Water Extractable Chloride by IC	E236.CI	833552	2	14	14.2	10.0	✓
Water Extractable Sulfate by IC	E236.SO4	833551	2	14	14.2	10.0	✓
Method Blanks (MB)							
Acid Volatile Sulfide in Soil by Colourimetry (0.2 mg/kg)	E396-L	835613	2	16	12.5	4.7	✓
Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)	E100-L	833550	1	14	7.1	5.0	✓
Moisture Content by Gravimetry	E144	833299	2	38	5.2	5.0	✓
Water Extractable Chloride by IC	E236.CI	833552	1	14	7.1	5.0	✓
Water Extractable Sulfate by IC	E236.SO4	833551	1	14	7.1	5.0	✓

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Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)	E100-L ALS Environmental - Waterloo	Soil/Solid	CSSS Ch. 15 (mod)/APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a soil sample that has been added in a defined ratio of soil to deionized water, then shaken well and allowed to settle. Conductance is measured in the fluid that is observed in the upper layer.
pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received	E108A ALS Environmental - Waterloo	Soil/Solid	MECP E3530	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally $20 \pm 5^{\circ}$ C) and is carried out in accordance with procedures described in the Analytical Protocol (prescriptive method). A minimum 10g portion of the sample, as received, is extracted with 20mL of 0.01M calcium chloride solution by shaking for at least 30 minutes. The aqueous layer is separated from the soil by centrifuging, settling, or decanting and then analyzed using a pH meter and electrode. This method is equivalent to ASTM D4972 and is acceptable for topsoil analysis.
ORP by Electrode	E125 ALS Environmental - Waterloo	Soil/Solid	APHA 2580 (mod)	Oxidation Redution Potential (ORP) is reported as the oxidation-reduction potential of the platinum metal-reference electrode employed in the analysis, measured in mV.
Moisture Content by Gravimetry	E144 ALS Environmental - Waterloo	Soil/Solid	CCME PHC in Soil - Tier 1	Moisture is measured gravimetrically by drying the sample at 105°C. Moisture content is calculated as the weight loss (due to water) divided by the wet weight of the sample, expressed as a percentage.
Water Extractable Chloride by IC	E236.Cl ALS Environmental - Waterloo	Soil/Solid	EPA 300.1	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection using a soil sample that has been added in a defined ratio of soil to deionized water, then shaken well and allowed to settle. Anions are measured in the fluid that is observed in the upper layer.
Water Extractable Sulfate by IC	E236.SO4 ALS Environmental - Waterloo	Soil/Solid	EPA 300.1	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection using a soil sample that has been added in a defined ratio of soil to deionized water, then shaken well and allowed to settle. Anions are measured in the fluid that is observed in the upper layer.
Acid Volatile Sulfide in Soil by Colourimetry (0.2 mg/kg)	E396-L ALS Environmental - Waterloo	Soil/Solid	APHA 4500S2J	This analysis is carried out in accordance with the method described in APHA 4500 S2-J. After extraction the Acid Volatile Sulphide is determined colourimetrically.
Resistivity Calculation for Soil Using E100-L	EC100R ALS Environmental - Waterloo	Soil/Solid	APHA 2510 B	Soil Resistivity (calculated) is determined as the inverse of the conductivity of a 2:1 water:soil leachate (dry weight). This method is intended as a rapid approximation for Soil Resistivity. Where high accuracy results are required, direct measurement of Soil Resistivity by the Wenner Four-Electrode Method (ASTM G57) is recommended.
Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions

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Project 121624777



Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Leach 1:2 Soil:Water for pH/EC	EP108	Soil/Solid	BC WLAP METHOD:	The procedure involves mixing the dried (at <60°C) and sieved (No. 10 / 2mm) sample
			PH, ELECTROMETRIC,	with deionized/distilled water at a 1:2 ratio of sediment to water.
	ALS Environmental -		SOIL	
	Waterloo			
Leach 1:2 Soil: 0.01CaCl2 - As Received for	EP108A	Soil/Solid	MOEE E3137A	A minimum 10g portion of the sample, as received, is extracted with 20mL of 0.01M
pH				calcium chloride solution by shaking for at least 30 minutes. The aqueous layer is
	ALS Environmental -			separated from the soil by centrifuging, settling or decanting and then analyzed using a
	Waterloo			pH meter and electrode.
Preparation of ORP by Electrode	EP125	Soil/Solid	APHA 2580 (mod)	Field-moist sample is extracted in a 1:2 ratio with DI water and then analyzed by ORP
				meter.
	ALS Environmental -			
	Waterloo			
Anions Leach 1:10 Soil:Water (Dry)	EP236	Soil/Solid	EPA 300.1	5 grams of dried soil is mixed with 50 grams of distilled water for a minimum of 30
				minutes. The extract is filtered and analyzed by ion chromatography.
	ALS Environmental -			
	Waterloo			
Distillation for Acid Volatile Sulfide in Soil	EP396-L	Soil/Solid	APHA 4500S2J	Acid Volatile Sulfide is determined by colourimetric measurement on a sediment sample
				that has been treated with hydrochloric acid within a purge and trap system, where the
	ALS Environmental -			evolved hydrogen sulfide gas is carried into a basic solution by argon gas for analysis.
	Waterloo			

ALS Canada Ltd.



QUALITY CONTROL REPORT

Work Order :WT2303358

Amendment : 1

Client : Stantec Consulting Ltd.

Contact ; Essa Nimer

Address : 100-300 Hagey Blvd.

Waterloo ON Canada N2L 0A4

Telephone : --

Project : 121624777

PO :----C-O-C number :----

Sampler : CLIENT Site :----

Quote number : Stantec 2024-2027 Standing Offer

No. of samples received : 6
No. of samples analysed : 6

Page : 1 of 6

Laboratory ; ALS Environmental - Waterloo

Account Manager : Mathy Mahadeva

Address : 60 Northland Road, Unit 1

Waterloo, Ontario Canada N2V 2B8

Telephone :+1 519 886 6910

Date Samples Received :13-Feb-2023 09:10

Date Analysis Commenced : 13-Feb-2023

Issue Date : 25-Nov-2024 14:00

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full. This Quality Control Report contains the following information:

The Quality Contains the following information.

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Reference Material (RM) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

Greg Pokocky

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories Position Laboratory Department

Amanda Ganouri-Lumsden Department Manager - Microbiology and Prep Waterloo Centralized Prep, Waterloo, Ontario

Manager - Inorganics Waterloo Inorganics, Waterloo, Ontario

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Work Order: WT2303358 Amendment 1
Client: Stantec Consulting Ltd.

Project : 121624777



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key:

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO = Data Quality Objective.

LOR = Limit of Reporting (detection limit).

RPD = Relative Percent Difference

= Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

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Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: Soil/Solid							Labora	tory Duplicate (D	UP) Report		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC	Lot: 833299)										
WT2303016-003	Anonymous	Moisture		E144	0.25	%	20.8	21.5	2.97%	20%	
Physical Tests (QC	Lot: 833332)										
WT2303358-004	BH59-23-S3-7.5'-9'	Moisture		E144	0.25	%	13.6	12.3	10.1%	20%	
Physical Tests (QC	Lot: 833382)										
WT2303016-003	Anonymous	pH (1:2 soil:CaCl2-aq)		E108A	0.10	pH units	7.40	7.53	1.74%	5%	
Physical Tests (QC	Lot: 833460)										
WT2303358-005	BH62-23-S3-7.5'-9'	Oxidation-reduction potential [ORP]		E125	0.10	mV	290	341	16.2%	25%	
Physical Tests (QC	Lot: 833550)										
WT2303358-001	BH47-23-S3-5'-6.5'	Conductivity (1:2 leachate)		E100-L	5.00	μS/cm	172	174	1.15%	20%	
Physical Tests (QC	Lot: 833750)										
FC2300396-002	Anonymous	Oxidation-reduction potential [ORP]		E125	0.10	mV	222	243	9.03%	25%	
Inorganics (QC Lot	: 834195)										
FC2300396-003	Anonymous	Sulfides, acid volatile		E396-L	0.22	mg/kg	<0.22	<0.22	0.22	Diff <2x LOR	
Inorganics (QC Lot	: 835613)										
WT2303358-004	BH59-23-S3-7.5'-9'	Sulfides, acid volatile		E396-L	0.23	mg/kg	0.46	<0.23	0.23	Diff <2x LOR	
Leachable Anions 8	Nutrients (QC Lot: 833	3551)									
WT2303358-001	BH47-23-S3-5'-6.5'	Sulfate, soluble ion content	14808-79-8	E236.SO4	20	mg/kg	22	21	0.5	Diff <2x LOR	
Leachable Anions &	Nutrients (QC Lot: 833	3552)									
WT2303358-001	BH47-23-S3-5'-6.5'	Chloride, soluble ion content	16887-00-6	E236.CI	5.0	mg/kg	14.8	15.6	0.8	Diff <2x LOR	

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Project : 121624777



Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: Soil/Solid

	CAS Number Method	LOR	Unit		Qualifier
Analyte	CAS Number Wethod	LOR	Unit	Result	Quanner
Physical Tests (QCLot: 833299)					
Moisture	E144	0.25	%	<0.25	
Physical Tests (QCLot: 833332)					
Moisture	E144	0.25	%	<0.25	
Physical Tests (QCLot: 833550)					
Conductivity (1:2 leachate)	E100-L	5	μS/cm	<5.00	
Inorganics (QCLot: 834195)					
Sulfides, acid volatile	E396-L	0.2	mg/kg	<0.20	
Inorganics (QCLot: 835613)					
Sulfides, acid volatile	E396-L	0.2	mg/kg	<0.20	
Leachable Anions & Nutrients (QCLot: 83	3551)				
Sulfate, soluble ion content	14808-79-8 E236.SO4	20	mg/kg	<20	
Leachable Anions & Nutrients (QCLot: 83	3552)				
Chloride, soluble ion content	16887-00-6 E236.CI	5	mg/kg	<5.0	

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Project : 121624777



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Soil/Solid					Laboratory Co	ontrol Sample (LCS)	Report	
				Spike	Recovery (%)	Recovery	Limits (%)	
Analyte CAS Nu	nber Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 833299)								
Moisture	E144	0.25	%		98.6	90.0	110	
Physical Tests (QCLot: 833332)								
Moisture	E144	0.25	%		99.9	90.0	110	
Physical Tests (QCLot: 833382)								
pH (1:2 soil:CaCl2-aq)	E108A		pH units		100	98.0	102	
Physical Tests (QCLot: 833550)								
Conductivity (1:2 leachate)	E100-L	5	μS/cm		99.8	90.0	110	
Inorganics (QCLot: 834195)								
Sulfides, acid volatile	E396-L	0.2	mg/kg		89.8	70.0	130	
Inorganics (QCLot: 835613)								
Sulfides, acid volatile	E396-L	0.2	mg/kg		87.4	70.0	130	
Leachable Anions & Nutrients (QCLot: 833551)								
Sulfate, soluble ion content 14808	79-8 E236.SO4	20	mg/kg		99.9	80.0	120	
Leachable Anions & Nutrients (QCLot: 833552)								
Chloride, soluble ion content 16887	00-6 E236.CI	5	mg/kg		99.2	80.0	120	

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Work Order: WT2303358 Amendment 1
Client: Stantec Consulting Ltd.

Project : 121624777



Reference Material (RM) Report

A Reference Material (RM) is a homogenous material with known and well-established analyte concentrations. RMs are processed in an identical manner to test samples, and are used to monitor and control the accuracy and precision of a test method for a typical sample matrix. RM results are expressed as percent recovery of the target analyte concentration. RM targets may be certified target concentrations provided by the RM supplier, or may be ALS long-term mean values (for empirical test methods).

Sub-Matrix:						Refere	nce Material (RM) Re	eport	
				•	RM Target	Recovery (%)	Recovery I	Limits (%)	
Laboratory sample ID	Reference Material ID	Analyte	CAS Number	Method	Concentration	RM	Low	High	Qualifier
Physical Tests (C	CLot: 833460)								
QC-833460-001	RM	Oxidation-reduction potential [ORP]		E125		105	80.0	120	
Physical Tests (C	(CLot: 833550)								
QC-833550-003	RM	Conductivity (1:2 leachate)		E100-L		104	70.0	130	
Physical Tests (C	(CLot: 833750)								
QC-833750-001	RM	Oxidation-reduction potential [ORP]		E125		104	80.0	120	
Leachable Anion	s & Nutrients (QCLot: 8	333551)							
QC-833551-003	RM	Sulfate, soluble ion content	14808-79-8	E236.SO4		107	70.0	130	
Leachable Anion	s & Nutrients (QCLot: 8	333552)							
QC-833552-003	RM	Chloride, soluble ion content	16887-00-6	E236.CI		101	70.0	130	

Environmental Division



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!	Time	Data:	1	(Line age out)	U VECEL HOW	INITIAL SHIPMENT MEDEL HOW (MED 400 011)	-		SHIPMENT RELEASE (client use)	
-	EPTION (ALS use only)	FINAL SHIPMENT RECEPTION (ALS use only)	1	(Al Cusco only)	PECEDION					□ YES
	-X								Are samples for human consumption user	Are samples for
3°6	FINAL COOLER TEMPERATURES °C	'ERATURES								
S KNIA	Sample Custody Seals Intact: ☐ YES	Cooler Custody Seals Intact: YES XN/A Samp	Cooler						S I NO	□ YES
	tification: YES NO	Submission Comments identified on Sample Receipt Notification:	Submis						Are samples taken from a Regulated DW System?	Are camples take
ATED	☐ FROZEN ☐ COOLING INITIATED	Cooling Method: ♥ NONE □ ICE □ ICE PACKS □	Cooling	WII DOLON	my nom drop-ac	(Excel COC only)	Notes / Specify Limits for result evaluation by selecting from crop-community (Excel COC only)	Notes / Specify	Drinking Water (DW) Samples¹ (client use)	Drinking
	S (ALS use only)	SAMPLE RECEIPT DETAILS (ALS use only)	-	holow	town drop do					
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-					1					
-										
					31					
		70		Soil	11:00	2-Feb-23			BH-29-23 - S3 - 7.5' - 9'	
1		ZI I		Soil	13:00	3-Feb-23			BH-25-23 - S3 - 7.5' - 9'	
-				Soil	10:00	3-Feb-23			BH-22-23 - S3 - 7.5' - 9'	
1				Soil	14:00	24-Jan-23			BH-20-23 - S2 - 7.5' - 9'	
+			+	Soil	15:00	31-Jan-23			BH-18-23 - S2 - 5' - 6.5'	
-			+	Soil	13:00	31-Jan-23			BH-10-23 - S3 - 5' - 6.5'	
1			+		Contraction	(dd-fillillin-yy)		pear on the report)	(This description will appear on the report)	(ALS use only)
EXT	SAN	Corros	_	Sample Type	(hh:mm)	Date		nd/or Coordinates	Sample Identification and/or Coordinates	ALS Sample #
ENDE	MPLES	sivity pad	MBEF		Sampler:	Mathy	ALS Contact:	335818	ALS Lab Work Order # (ALS use only): WT0303357 Mals Contact:	ALS Lab Work
D ST	s OI	скад	_				Location:			LSD:
TOF	N H	ae	_				Requisitioner:			PO / AFE:
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UIF			NE				Email 2			Contact:
RED			RS		ntec.com	Raid.Khamis@stantec.com	Email 1 or Fax R			Company:
2	reserved (F/P) below	Indicate Filtered (F). Preserved (P) or Filtered and Preserved (F/P) below		FAX	AIL MAIL	tribution: EMAIL		NO	Copy of Invoice with Report YES N	0
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		Additional fees may apply to rush requests on we			inco.com	Naiu.Nilailiis@startec.com	or Fax		100-300 Hagey Blvd	Street: 1
	を持ち	I day [E] if received by 3pm M-r - 100% rush surrorates	☐ 1 day [E			- Liver	- 1		Company address below will appear on the final report	
		☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge	2 day [F		provide details below if	Criteria on Report -	Compare Results to Criteria on Report - provide details below if box Criecked Mari FAX		226-338-0812	Phone: 2
=		☐ 3 day [P3] if received by 3pm M-F - 25% rush surchargi	□ 3 day [F		TYES I NO	eports with COA	Merge QC/QCI Reports with COA LI YES		Essa Nimer	
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α	WT2303358	lurnaround time (TAT) requested			16	Reports / Recipients			Contact and company name below will appear on the final report	Report To
,	Waterioo Work Order Reference								www.aisglobal.com	(ALV)
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EXTENDED STORAGE REQUIRED SUSPECTED HAZARD (see notes)

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form. REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY

YELLOW - CLIENT COPY

Released by:

Essa Nimer

Date:

13-Feb Time: Received by: